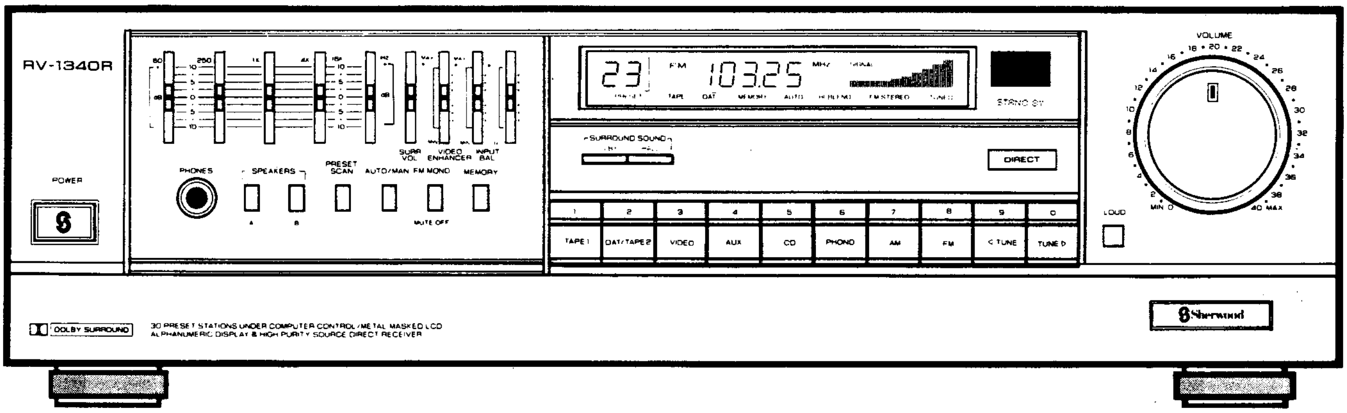
SERVICE MANUAL

RV-1340R

AUDIO/VIDEO REMOTE CONTROL RECEIVER


RV-1340R
POWER
PHONES
SPEAKERS
A
B
PRESET SCAN
AUTO/MAN
FM MONO
MEMORY
MUTE OFF
SURR VOL
VIDEO ENHANCER
INPUT BAL
23
FM
103.25
SURROUND SOUND
DIRECT
TAPE 1
DAT/TAPE 2
VIDEO
AUX
CD
PHONO
AM
FM
< TUNE
TUNE >
VOLUME
LOUD
MIN
MAX
DOLBY SURROUND
30 PRESET STATIONS UNDER COMPUTER CONTROL/METAL MASKED LCD
ALPHANUMERIC DISPLAY & HIGH PURITY SOURCE DIRECT RECEIVER
Sherwood

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NOTICE

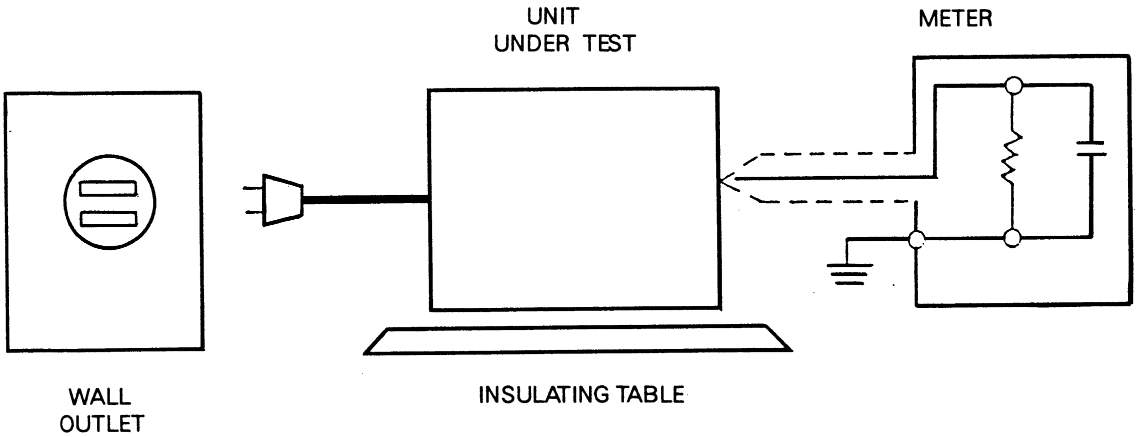
- This manual is for authorized and qualified service personnel, so the basic service procedure and commonsense of safety are not described in this manual.
- Sherwood always makes every endeavor to improve the products, therefore the specifications and data provided are subject to change without notice.

Sherwood

To Service Personnel

1. Critical Components Information.
   The ⚠ marked components on schematic diagram and parts list be replaced with the parts having specifications equal to thnse originally installed.

2. Leakage Current Measurement(For 120V Version only).
   When the service has been completed, make sure that all exposed conductive surfaces are properly insulated from the power supply circuits.
   - Leakage current meter should have an input impedance of 1500 ohms resistive shunted by 0.15μF capacitor.
   - Leakage current shall not be exceed 0.5mA.



3. Turn the unit OFF, and disconnect the power supply cord during disassembly and replacement of parts.

4. Wheh the service has been completed, be sure to check all protective device and spacings before returning the unit to customer.

Specifications - DIN/IEC Version

AMPLIFIER FRONT SECTION

Power Output, per Channel	
IEC standard, 63 Hz to 12.5kHz, 8 ohms	110W+110W
DIN standard, 1 kHz, 8 ohms	115W+115W
THD. −6 dB Rated Output, 8 ohms, 1 kHz	0.012%
IMD. −6 dB Rated Output, 8 ohms	0.018%
Damping Factor at 1 kHz, 8 ohms	70
Input Sensitivity for 100W output 8 ohms at 1 kHz	
Phono	2.5mV
Linear Inputs	150mV
Phono Preamp Input Overload at 1 kHz, 0.1% THD	170mV
at 10 kHz, 0.1% THD	750mV
Signal to Noise Ratio, IEC "A" wtd/unwtd	
Phono: 5mV input 2.2 kohm shorted, VOL Adj 100W	80/74 dB
Linear Inputs: 500mV input, 22 kohm shorted, VOL Adj 100W	96/86 dB
Frequency Rresponse	
Phono, RIAA 30-20,000 kHz	±0.5 dB
Linear inputs at 1W, −3 dB	5 Hz-60 kHz
5 Band Equalizer Control (63 Hz, 250 Hz, 1 kHz, 4 kHz, 16kHz)	±10 dB
Loudness Contour	
at 100 Hz	+7 dB
at 10 kHz	+3.0 dB

AMPLIFIER REAR (SURROUND) SECTION

Power Output	
IEC standard, 63 Hz to 7 kHz, 8 ohms	20W
DIN standard, 1 kHz, 8 ohms	23W
THD. −6 dB Rated Output, 8 ohms, 1 kHz	0.25%
Frequency Response. −3 dB, DOLBY/HALL	100 Hz-7 kHz
Signal to Noise Ratio, IEC "A" wtd	
500mV input, 22 kohm shorted, VOL Adj 20W, DOLBY/HALL	55dB

FM SECTION

Tuning Range	USA/CANADA/AUSTRALIA Version: 87.5-108 MHz EUROPE Version: 87.5-108 MHz
Scanning Frequency Interval (Auto/Manual)	USA/CANADA Version: 0.1 MHz EUROPE/AUSTRALIA Version 0.05 MHz
Usable Sensitivity S/N 26 dB, 40 kHz (Dev) Mod	1.7µV (9.8 dBf)
50 dB Quieting Sensitivity, Stereo	36µV (36.4 dBf)
THD at 1 kHz, 40 kHz Dev, Mono	0.2%
Stereo	0.3%
Stereo Separation at 1 kHz	50 dB
Signal to Noise Ratio Mono	80 dB
Stereo	75 dB
Frequency Response 20 Hz-15 kHz	+0.5/−3 dB
Audio Output Voltage, 1 kHz, 100% Mod.	600 mV
De-emphasis	USA/CANADA Version: 75µ Sec AUSTRALIA/EUROPE Version: 50µ Sec

AM SECTION

Tuning Range	USA/CANADA Version: 520-1710 kHz AUSTRALIA/EUROPE Version: 522-1611 kHz
Scanning Frequency Interval (Auto/Manual)	USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version : 9 kHz
Usable Sensitivity IHF at S+N/N=20 dB, Loop Antenna	600µV/m
Signal to Noise Ratio, 30% Mod Ref	40 dB
Audio Output Voltage, 400 Hz, 30% Mod.	150mV

NOTE:Specifications and the design subject to change without notice for improvements.

–IHF/EIA Version

AMPLIFIER FRONT SECTION

Power Output, Continuous RMS with no more than 0.05% THD	
at 8 ohms, 20-20,000 Hz	100W+100W
at 8 ohms, 1 kHz	105W+105W
Inter-Modulation Distortion, 60 Hz: 7 kHz=4:1 SMPTE	
100W output into 8 ohms	0.04
Damping Factor at 1 kHz, 8 ohms	70
Input Sensitivity for 100W output 8 ohms at 1 kHz	
Phono	2.5mV
Linear Inputs	150mV
Phono Preamp Input Overload at 1 kHz, 0.1% THD	170mV
at 10 kHz, 0.1% THD	750mV
Signal to Noise Ratio, IHF "A" wtd/unwtd	
Phono	76/70 dB
Linear Inputs	96/86 dB
Frequency Response	
Phono, RIAA 30-20,000kHz	±0.5 dB
Linear Inputs at 1W, –3 dB	5 Hz-60 kHz
5 Band Equalizer Control (63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz)	±10 dB
Loudness Contour	
at 100 Hz	+7 dB
at 10 kHz	+3.0 dB
Channel Separation at AUX input shorted	
100 Hz	60 dB
1 kHz	60 dB
10 kHz	40 dB

AMPLIFIER REAR(SURROUND) SECTION

Power Output, Continuous RMS with no more than 0.3% THD	
at 8 ohms, 1 kHz	20W
Frequency Response, –3 dB DOLBY/HALL	100 Hz-7 kHz
Signal to Noise Ratio, 1 IHF "A" wtd	55 dB

FM SECTION

Tuning Range	USA/CANADA/AUSTRALIA Version: 87.5-108 MHz EUROPE Version: 87.50-108.00 MHz
Scanning Frequency Interval (Auto/Manual)	USA/CANADA Version: 0.1 MHz EUROPE/AUSTRALIA Version: 0.05 MHz
Usable Sensitivity S/N 26 dB, 40 kHz (Dev) Mod.	1.7μV (9.8 dBf)
50 dB Quieting Sensitivity, Stereo	36μV (36.4 dBf)
THD at 1 kHz, 40 kHz Dev, Mono	0.2%
Stereo	0.3%
Stereo Separation at 1 kHz	50 dB
Signal to Noise Ratio Mono	80 dB
Stereo	75 dB
Frequency Response 20 Hz-15 kHz	+0.5/–3 dB
Audio Output Voltage, 1 kHz, 100% Mod.	600mV
De-emphasis	USA/CANADA Version: 75μ Sec AUSTRALIA/EUROPE Version: 50μ Sec

AM SECTION

Tuning Range	USA/CANADA Version: 520-1710 kHz AUSTRALIA/EUROPE Version: 522-1611 kHz
Scanning Frequency Interval (Auto/Manual)	USA/CANADA Version: 10 kHz AUSTRALIA/EUROPE Version: 9 kHz
Usable Sensitivity IHF at S+N/N=20 dB, Loop Antenna	600μV/m
Signal to Noise Ratio, 30% Mod Ref.	40 dB
Audio Output Voltage, 400 Hz, 30% Mod.	150mV

General Specifications

Speaker Load Impedance	8-16Ω
Power Consumption	
DIN/IEC Version	430W Max (Vol Min 38W)
IHF/EIA Version	270W (Min 38W, Max 430W)
Dimentions	(W)440(H)118×(D)280 mm
Weight	9.6 Kg

POWER SUPPLY

A : USA & CANADIAN MODEL	120V AC, 60Hz
B : MULTI-VOLTAGE MODEL	120V, 220V AC, 60/50Hz
C : GENERAL EUROPEAN MODEL	220V AC, 50Hz
D : WEST GERMAN & ITALIAN MODEL	220V AC, 50Hz
E : BRITISH & AUSTRATRALIAN MODEL	240V AC, 50Hz
F : SWISS & SCANDINABIAN MODEL	220V AC, 50Hz

NOTE: Specifications and the design subject to change without notice for improvements.

Electrical Adjustment Procedure

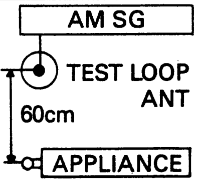
*Before making adjustment, operate the appliance for more than 2 minutes.

TUNER SECTION

*Note: 1. 0 dB=1μV
2. FM 100% Mod. =75 kHz Dev.
3. DVM=Digital Volt Meter
4. SG=Signal Generator
5. SSG=Stereo Signal Generator

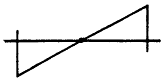
1. AM Adjustment

- Selector . . . . TUNER, FM/AM

No.	Subject	Feed Signal		Setting Appliance	Measure Output	Adjust Point	Adjust For	Remark
		From	To					
1	TUNING VOLTAGE	520 kHz		*1) 520 kHz	Connect DVM	L111	DC 1±0.4V	
		1710 kHz		*2) 1710 kHz	Same as above	TC105	DC 8.5±0.4V	
		• Repeat the step *1) and *2) until DVM reads the tuning voltage mentioned above. • In case the freq. is 9 kHz, the freq. of AM SG and appliance should be changed to *1) 522 kHz *2) 1611 kHz						
2	IF	AM IF Genescope	ANT.		Connect IF Genescope	IFT102 IFT103	Symmetrical curve on AM IF Genescope	
3	RF TUNING	*1) AM SG 600 kHz, 75 dB 400Hz (30% MOD.)	ANT.	600 kHz	Output Connect AC Voltmeter & Oscilloscope	L110	Maximize audio output	
		*2) AM SG 1400 kHz, 75dB 400Hz (30% MOD.)	ANT.	1400 kHz	Same as above	TC104	Same as above	
		• Feed Signal should be fed to Loop ant. through the TEST Loop ant., 60cm distant from the appliance • Repeat the step *1) & *2) until no further improvement occurs. • In case the freq. is 9 kHz, the freq. of AM SG and appliance should be changed to *1) 603 kHz *2) 1404 kHz						
4	TUNED LEVEL	AM SG 1000 kHz, 83dB 400Hz (30% MOD.)	ANT.	1000 kHz		VR104		Tuned light on in LCD
	• In case the freq. step is 9 kHz, the freq. of AM SG and appliance should be changed to 999 kHz.							

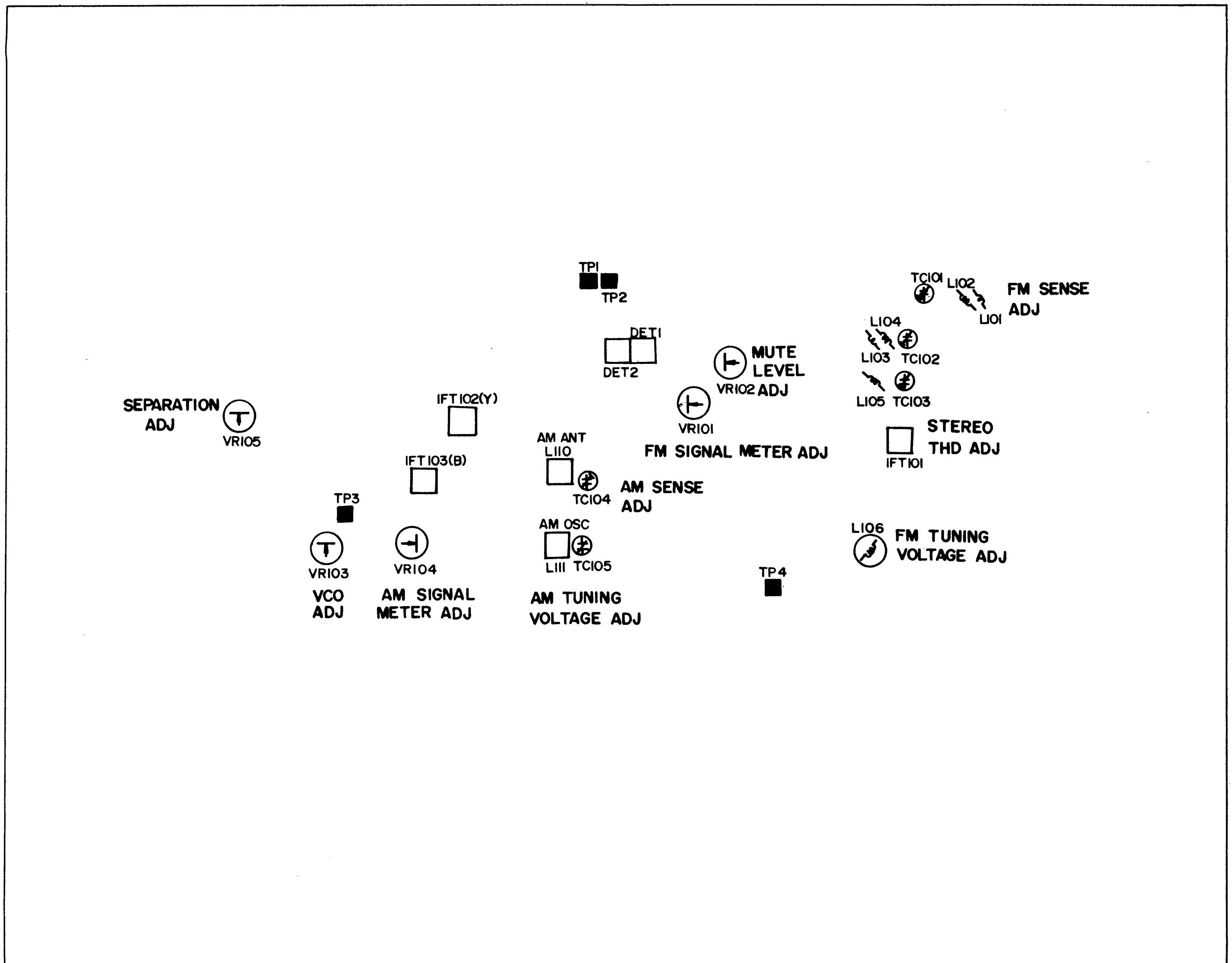
2. FM Adjustment

- Selector . . . . . TUNER, FM (MONO/STEREO)
- Deviation. . . . . USA/CANADA (75 kHz Dev.)
  EUROPE (40 kHz Dev.)

No.	Subject	Feed Signal		Setting Appliance	Measure Output	Adujst Point	Adujst For	Remark
		From	To					
1	TUNING VOLTAGE			108 MHz	Connect DVM	L106	DC 8.3 ± 0.2V	
				87.5 MHz			DC 2 ± 0.2V	
2	IF	FM IF Genescope	ANT.	98 MHz 66dB	Connect IF Genescope	DET1	Symmetrical S curve on AM IF Genescope	
					Connect DVM		DC 0 ± 50mV	
				Detune	Connect Oscilloscope	DET1	Maximize noise output	In case IF Genescope is not available
					Connect DVM		DC 0 ± 50mV	
3	RF TUNING	*1) FM SG 90 MHz, 2.5μV 1 kHz (75 kHz Dev.)	ANT.	90 MHz MONO	Output Connect AC Voltmeter & Distortion Analyzer and Oscilloscope	L101 L102 L103 L104 L105	Maximize audio output	
		*2) FM SG 106 MHz, 2.5μV 1 kHz (75 kHz Dev.)	ANT.	106 MHz MONO	Same as above	TC101 TC102 TC103	Same as above	
		• Repeat the step *1) and *2) until no further improvement occurs.						
4	THD (MONO)	FM SG 98 MHz, 60dB 1 kHz (75 kHz Dev.)	ANT.	98 MHz MONO	*1) Connect DVM	DET1	DC 0 ± 0.1V	
					*2) connect AC Voltmeter & Distortion Analyzer	DET2	Minimize distortion	
		• Adjust the step *1) 1st and the step *2) next and repeat until no further improvement occurs.						
5	MPX (VCO)	FM SSG 98 MHz, 60dB 1 kHz (75 kHz Dev.) Pilot 19 kHz (9% Mod.)	ANT.	98 MHz Stereo	TP3 Connect freq. Counter	VR103	Read 76 kHz	
		• Before adjustment, set the FM SSG to "Mod. OFF".						
6	THD (STEREO)	FM SSG 98 MHz, 60dB 1 kHz (75 kHz Dev.) Pilot 19 kHz (9% Mod.)	ANT.	98 MHz Stereo	Output connect AC voltmeter &	IFT101	Minimize distortion	
7	MUTE LEVEL	FM SG 98 MHz, 10μV 1 kHz (75 kHz Dev.)	ANT.	98 MHz Stereo	Output connect oscilloscope	VR105	Muting occurs marginally	

No.	Subject	Feed Signal		Setting Appliance	Measure Output	Adujst Point	Adujst For	Remark
		From	To					
8	SEPARATION	*1) FM SSG 98 MHz, 60dB 1 kHz (75 kHz, Dev) Pilot 19 kHz (9% Mod) (Lch→Rch)	ANT	98 MHz Stereo	R ch Mod connect AC voltmeter & distortion analyzer and oscilloscope	VR105	Minimize Output	
		*2) Same as above Rch→Lch)			L ch Mod connect same as above	VR105 output	Minimize	
		• Repeat the step *) until no further improvement occurs.						
9	SIGNAL METER	FM SSG 98 MHz, 60dB 1 kHz (75 kHz Dev.)	ANT.	98 MHz Mono		VR101	LCD Signal meter 5 dot lights slightly	

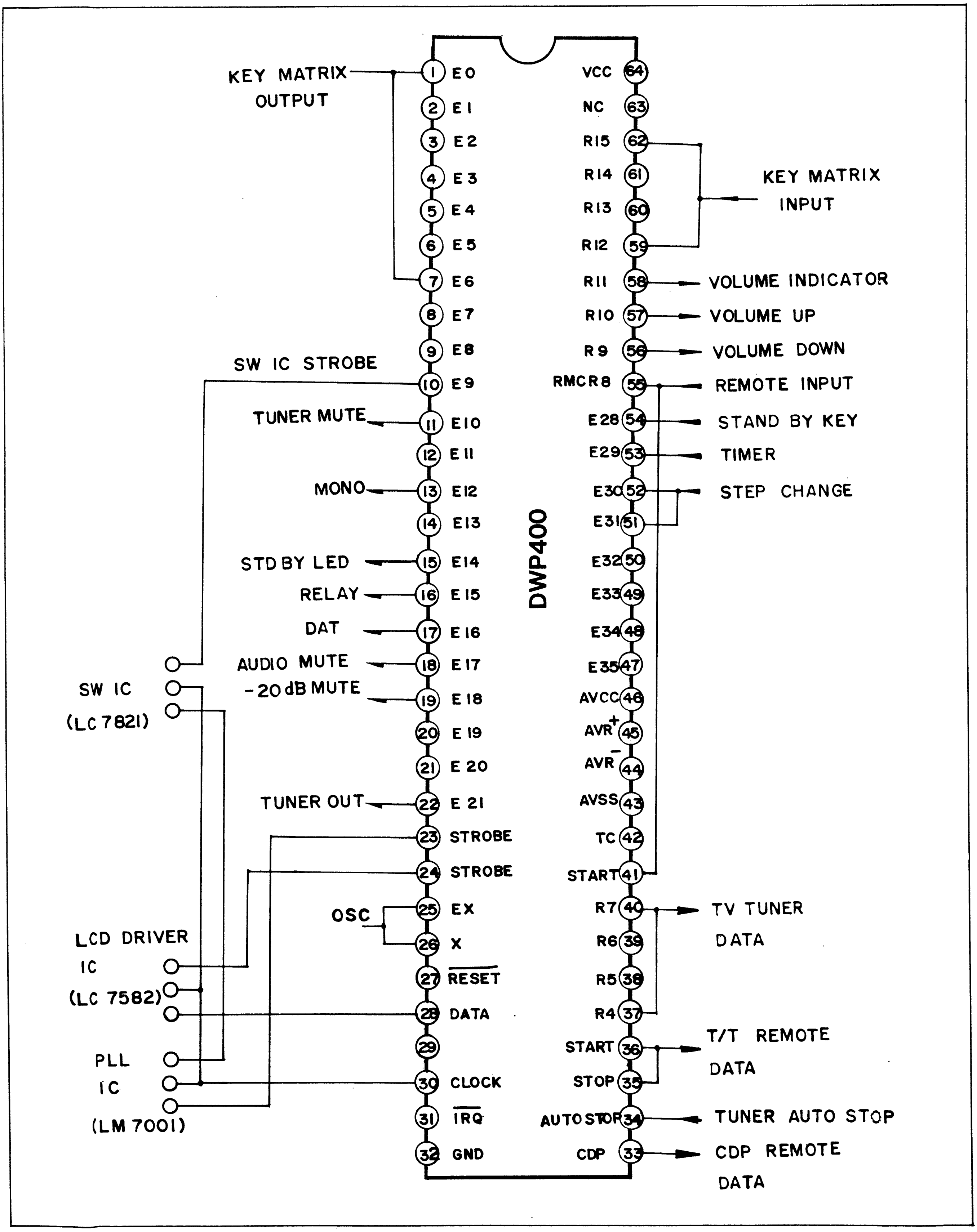
Electrical Adjustment Point


TP1
TP2
DET1
DET2
MUTE
LEVEL
ADJ
VR102
TC101
L102
L101
FM SENSE
ADJ
L104
L103
TC102
L105
TC103
SEPARATION
ADJ
VR105
IFT102(Y)
VR101
FM SIGNAL METER ADJ
STEREO
THD ADJ
IFT101
AM ANT
L110
IFT103(B)
TC104
AM SENSE
ADJ
TP3
AM OSC
L111
TC105
L106
FM TUNING
VOLTAGE ADJ
VR103
VCO
ADJ
VR104
AM SIGNAL
METER ADJ
AM TUNING
VOLTAGE ADJ
TP4

TUNER BOARD 4002017800

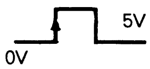
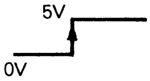
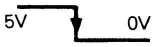
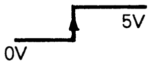
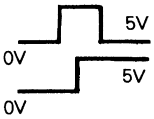
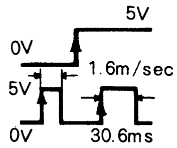
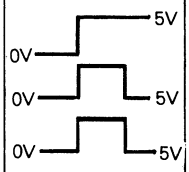
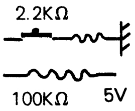
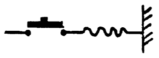
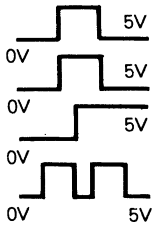
Circuit Description

– Pin Assignment of μ-Computer (IC 602: DWP400)

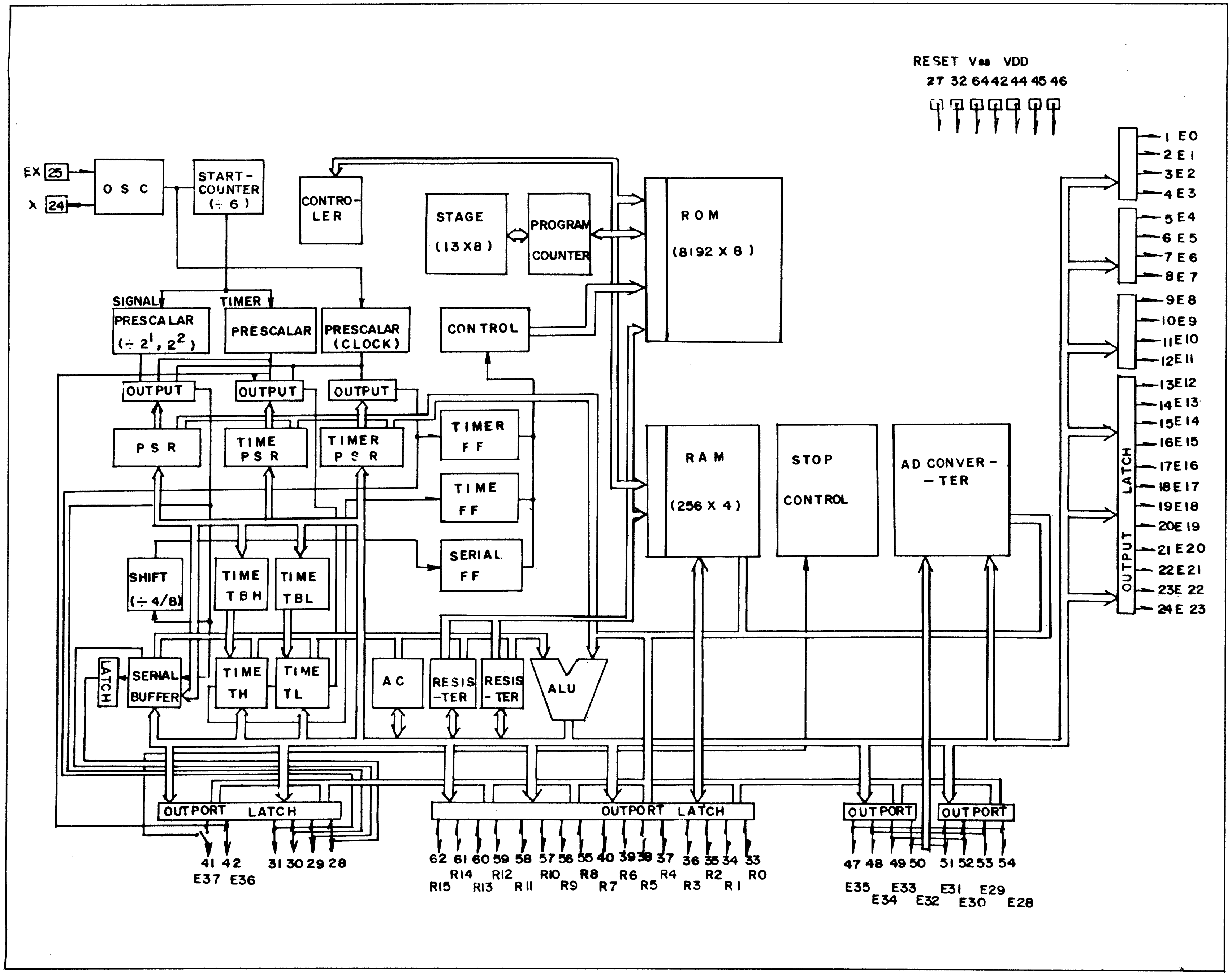


DWP400
KEY MATRIX OUTPUT
① E0
② E1
③ E2
④ E3
⑤ E4
⑥ E5
⑦ E6
⑧ E7
⑨ E8
SW IC STROBE
⑩ E9
TUNER MUTE
⑪ E10
⑫ E11
MONO
⑬ E12
⑭ E13
STD BY LED
⑮ E14
RELAY
⑯ E15
DAT
⑰ E16
AUDIO MUTE
⑱ E17
-20 dB MUTE
⑲ E18
⑳ E19
㉑ E20
TUNER OUT
㉒ E 21
㉓ STROBE
㉔ STROBE
OSC
㉕ EX
㉖ X
㉗ RESET
㉘ DATA
㉙
㉚ CLOCK
㉛ IRQ
㉜ GND
SW IC (LC 7821)
LCD DRIVER IC (LC 7582)
PLL IC (LM 7001)
VCC (64)
NC (63)
R15 (62)
R14 (61)
R13 (60)
R12 (59)
KEY MATRIX INPUT
R11 (58)
VOLUME INDICATOR
R10 (57)
VOLUME UP
R9 (56)
VOLUME DOWN
RMCR8 (55)
REMOTE INPUT
E28 (54)
STAND BY KEY
E29 (53)
TIMER
E30 (52)
STEP CHANGE
E31 (51)
E32 ㊿
E33 ㊾
E34 ㊽
E35 ㊼
AVCC ㊻
AVR+ ㊺
AVR- ㊹
AVSS ㊸
TC ㊷
START ㊶
R7 ㊵
TV TUNER DATA
R6 ㊴
R5 ㊳
R4 ㊲
START ㊱
T/T REMOTE DATA
STOP ㉟
AUTO STOP ㉞
TUNER AUTO STOP
CDP ㉝
CDP REMOTE DATA

-Functions Assigned(IC602:DWP400)

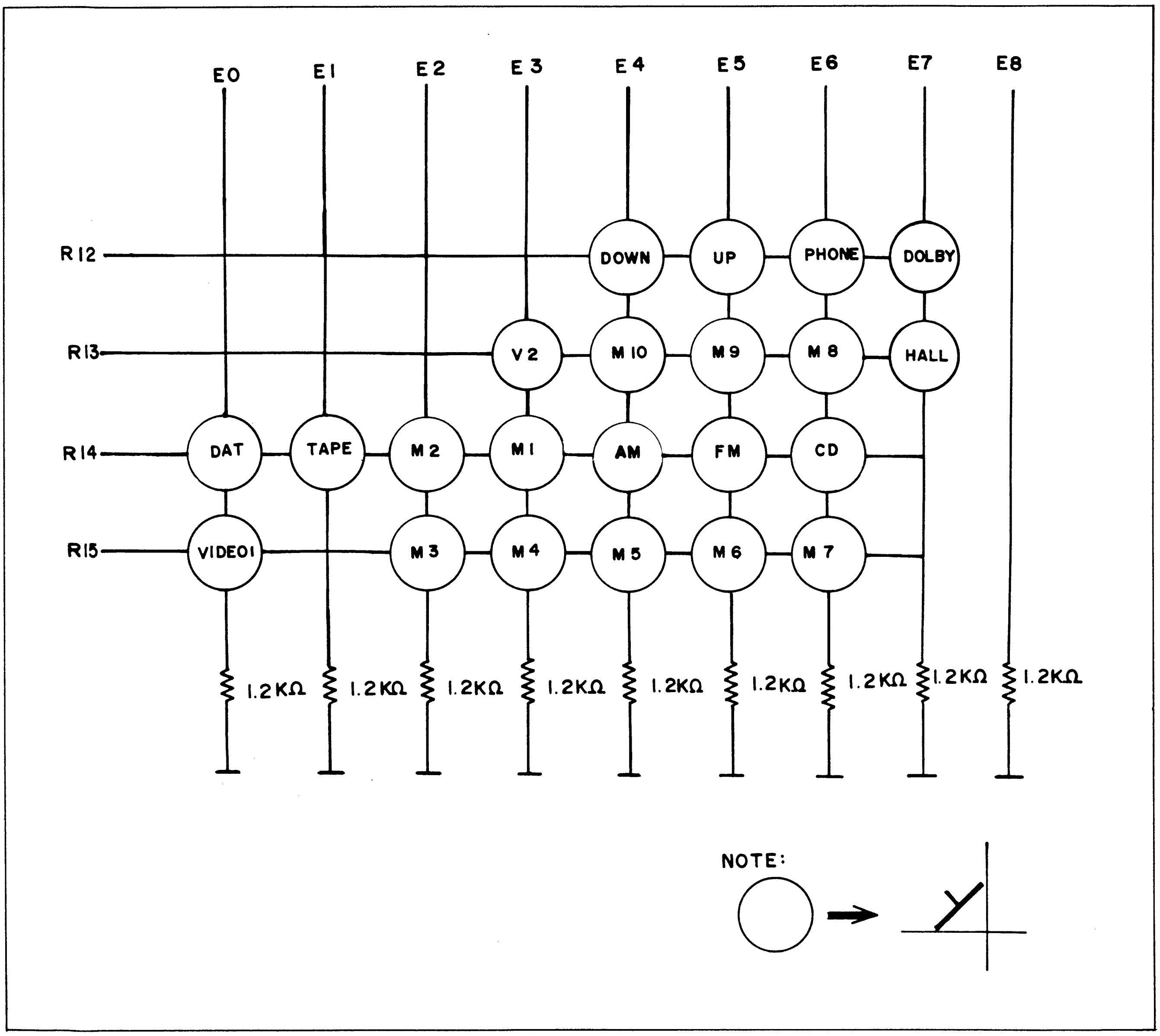
NO	TERMINAL	OPERATING CHART	REMARKS
1	KEY MATRIX OUTPUT		
2	KEY MATRIX OUTPUT		
3	KEY MATRIX OUTPUT		
4	KEY MATRIX OUTPUT		
5	KEY MATRIX OUTPUT		
6	KEY MATRIX OUTPUT		
7	KEY MATRIX OUTPUT		
8			
9			
10	SW IC STROBE		LC 7821
11	TUNER MUTE		Q118
12			
13	FM MONO		Q115
14			
15	STAND/BY LED		Q606
16	POWER RELAY		Q805
17	DAT DATA		LM7001,LC 7821,LC7852
18	AUDIO MUTE		Q501L/R
19	−20dB MUTE		R502L/R
20			
21			
22	TUNER OUT		Q523
23	PLL STROBE		LM7001
24	LCD STROBO		LC7582
25	EX		
26	X	6MHz	
27	$\overline{RESET}$		
28	DATA		LM7001 LC7821
29			
30	CLOCK		LC7582
31	$\overline{IRQ}$		
32	GND		
33	CDP REMOTE		
34	AUTO STOP		Q113
35	T/T STOP		Q603
36	T/T START		Q602
37	TV TUNER REMOTE DATA		
38	TV TUNER REMOTE DATA		
39	TV TUNER REMOTE DATA		
40	TV TUNER REMOTE DATA		
41	START	REMOTE INPUT	Q609
42			
43			
44			
45			
46			
47			
48			
49			
50		FM/AM	
51	STEP CHANGE	100KHz/10KHz	
52	STEP CHANGE	50KHz/9KHz	
53			
54	STAND BY		
55	RMC	REMOTE INPUT	
56	VOLUME DOWN		BA 6208
57	VOLUME UP		BA 6208
58	VOLUME IND		NORMAL
59	KEY MATRIX INPUT		−20dB Mute
60	KEY MATRIX INPUT		
61	KEY MATRIX INPUT		
62	KEY MATRIX INPUT		
63			
64	Vcc	+5V	

– Internal Block Diagram (IC602: DWP400, 4bit μ-Computer)



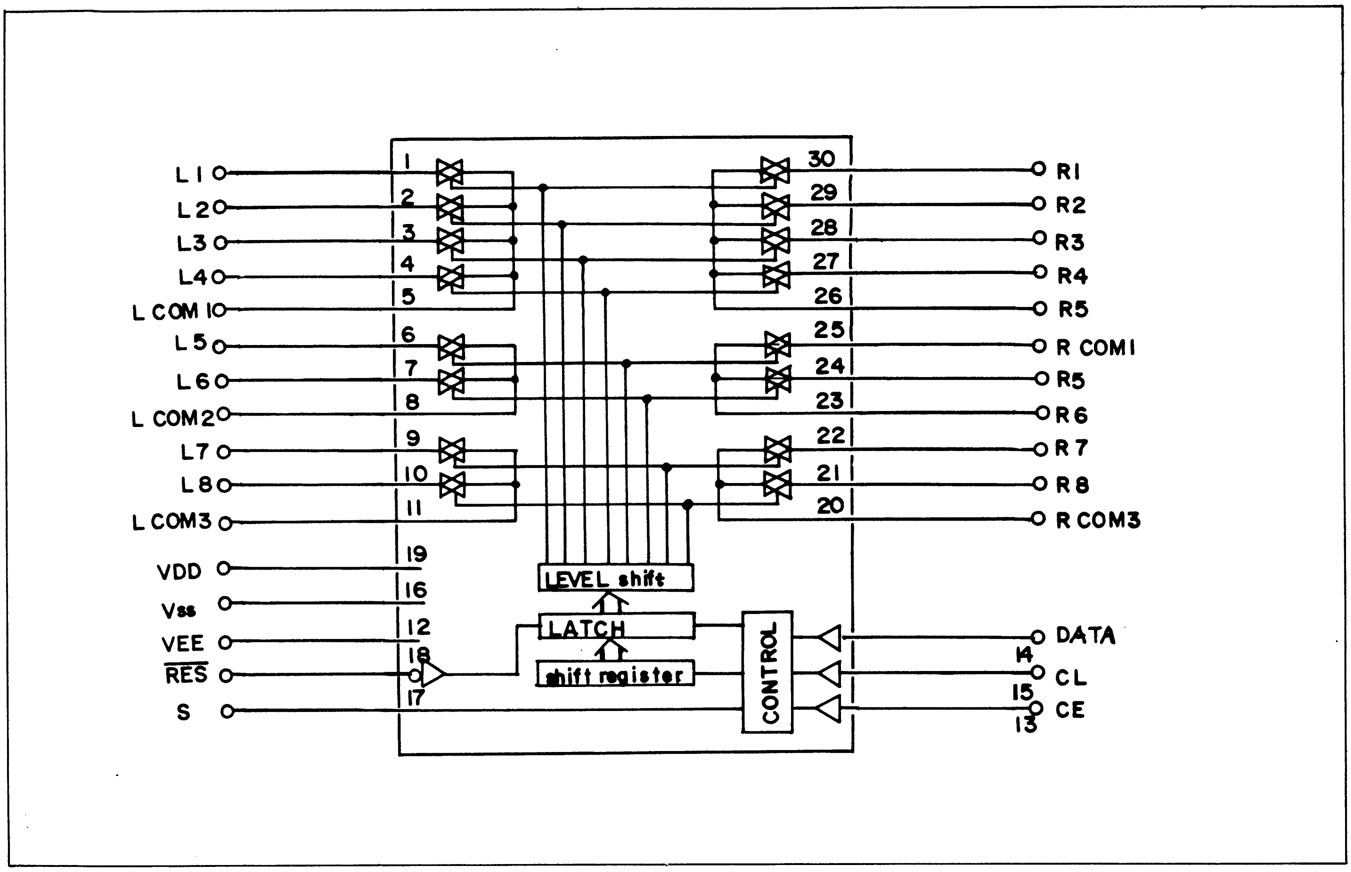
RESET Vss VDD
27 32 64 42 44 45 46
EX 25
X 24
O S C
START-COUNTER (÷ 6)
CONTRO-LER
STAGE (13X8)
PROGRAM COUNTER
ROM (8192 X 8)
SIGNAL
TIMER
PRESCALAR (÷ 2¹, 2²)
PRESCALAR
PRESCALAR (CLOCK)
CONTROL
OUTPUT
OUTPUT
OUTPUT
P S R
TIME PSR
TIMER PSR
TIMER FF
TIME FF
SERIAL FF
SHIFT (÷ 4/8)
TIME TBH
TIME TBL
RAM (256 X 4)
STOP CONTROL
AD CONVER-TER
LATCH
SERIAL BUFFER
TIME TH
TIME TL
A C
RESIS-TER
RESIS-TER
ALU
OUTPUT LATCH
1 E0
2 E1
3 E2
4 E3
5 E4
6 E5
7 E6
8 E7
9 E8
10 E9
11 E10
12 E11
13 E12
14 E13
15 E14
16 E15
17 E16
18 E17
19 E18
20 E19
21 E20
22 E21
23 E22
24 E23
OUTPORT LATCH
41 42
E37 E36
31 30 29 28
OUTPORT LATCH
62 61 60 59 58 57 56 55 40 39 38 37 36 35 34 33
R14 R12 R10 R8 R6 R4 R2 R0
R15 R13 R11 R9 R7 R5 R3 R1
OUTPORT
OUTPORT
47 48 49 50 51 52 53 54
E35 E33 E31 E29
E34 E32 E30 E28

– Key Matrix of Input & Output


E0
E1
E2
E3
E4
E5
E6
E7
E8
R12
R13
R14
R15
DOWN
UP
PHONE
DOLBY
V2
M 10
M 9
M 8
HALL
DAT
TAPE
M 2
M 1
AM
FM
CD
VIDEO1
M 3
M 4
M 5
M 6
M 7
1.2KΩ
1.2KΩ
1.2KΩ
1.2KΩ
1.2KΩ
1.2KΩ
1.2KΩ
1.2KΩ
1.2KΩ
NOTE:

IC Lead Identification

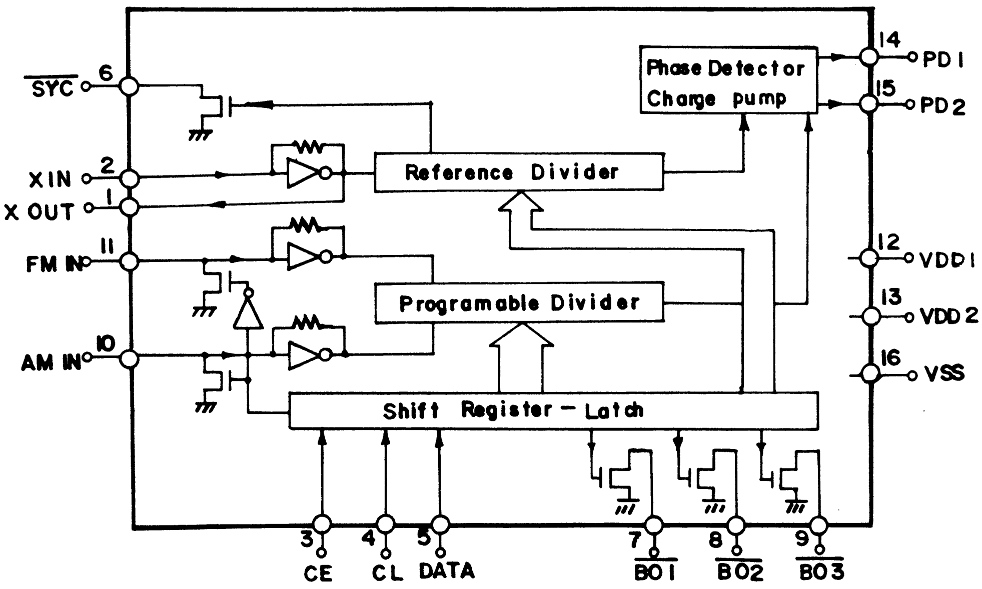
–LC 7821:IC202(Switching IC)


L1
L2
L3
L4
L COM 1
L5
L6
L COM2
L7
L8
L COM3
VDD
Vss
VEE
$\overline{\text{RES}}$
S
1
2
3
4
5
6
7
8
9
10
11
19
16
12
18
17
30
29
28
27
26
25
24
23
22
21
20
R1
R2
R3
R4
R5
R COM1
R5
R6
R7
R8
R COM3
LEVEL shift
LATCH
shift register
CONTROL
DATA
14
CL
15
CE
13

PIN NO.	TERMINAL	DESCRIPTION
1	TUNER	Input/output terminals of audio signal of left channel Control to the inside analog switch at the serial data
2	PHONO	
3	CD	
4	VIDEO	
5	COM	
6	AUX	
7	V2	
8	TAPE OUTPUT	
9	TAPE INOUT	
10	TAPE INPUT	
11	DAT OUTPUT	
12	VEE	Negative power supply terminal (−18.2)
13	STROBE	Serial Control terminal Connect terminal of MB 88P 515B
14	DATA	
15	CLOCK	
16	VSS	Ground terminal
17	S	

PIN NO.	TERMINAL	DESCRIPTION
18	$\overline{\text{RES}}$	Reset terminal. When power is turned ON, the Condition of the analog switch is not determined, but when this teminal is 'L', all analog switches are. OFF
19	VDD	Power Supply terminal(+17.8)
20	DAT OUTPUT	Input/Output terminals of audio signal of right channel. Control to the inside analog switch at the serial date.
21	TAPE INPUT	
22		
23	TAPE OUTPUT	
24		
25	AUX	
26		
27	VIDEO	
28	CD	
29	PHONO	
30	TUNER	

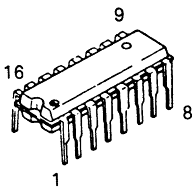
– LM 7001:IC 103(PLL IC)

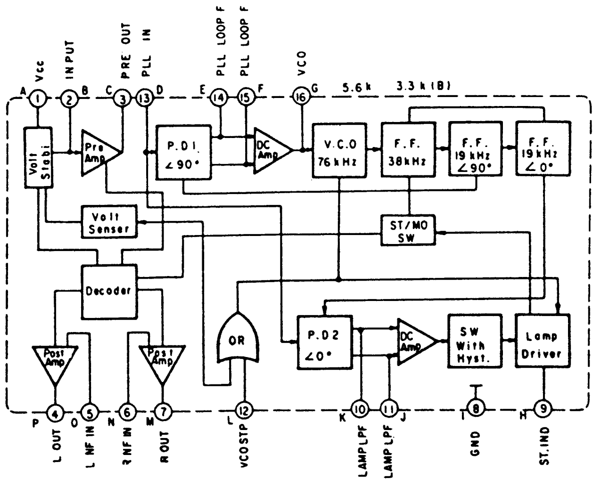


SYC
6
XIN
2
X OUT
1
FM IN
11
AM IN
10
Phase Detector
Charge pump
Reference Divider
Programable Divider
Shift Register – Latch
14
PD1
15
PD2
12
VDD1
13
VDD2
16
VSS
3
CE
4
CL
5
DATA
7
BO1
8
BO2
9
BO3

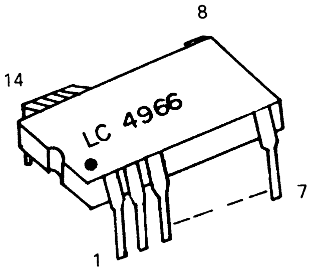
<table>
<tr><th>Pin No.</th><th>Terminal</th><th>Description</th></tr>
<tr><td>1</td><td>XOUT</td><td>Connect to the 7.2MHz crystal oscillator.</td></tr>
<tr><td>2</td><td>XIN</td><td></td></tr>
<tr><td>3</td><td>CE</td><td>Chip enable teminal. Connect to the PLL terminal of DWP400</td></tr>
<tr><td>4</td><td>CL</td><td>Serial clock input terminal .Connect to the CLOCK terminal of DWP400</td></tr>
<tr><td>5</td><td>DATA</td><td>Serial data input terminal. Connect to the DATA terminal of DWP400</td></tr>
<tr><td>6</td><td>SYN</td><td>Not used.</td></tr>
<tr><td>7</td><td>BAND1</td><td rowspan="2">BAND selector output terminal.<table><tr><th>BAND</th><th>BAND1</th><th>BAND2</th></tr><tr><td>FM</td><td>H</td><td>L</td></tr><tr><td>FM A</td><td>L</td><td>H</td></tr></table></td></tr>
<tr><td>8</td><td>BAND2</td></tr>
<tr><td>9</td><td>ANT</td><td>Antenna selector output terminal. “H” when antenna A and AM.</td></tr>
<tr><td>9</td><td>AMIN</td><td>AM local oscillator input terminal.</td></tr>
<tr><td>11</td><td>FMIN</td><td>FM local oscillator terminal.</td></tr>
<tr><td>12</td><td>VDD1</td><td>Power supply terminal for back-up.</td></tr>
<tr><td>13</td><td>VDD2</td><td>Power supply terminal</td></tr>
<tr><td>14</td><td>PD1</td><td>Charge output of the phase detector which constitutes the PLL. High level is output when the divided local oscillator frequency is high than the reference frequency.</td></tr>
<tr><td>15</td><td>VD2</td><td>In the opposite case, low level is output. Floating occurs when the frequencies matched.
The output is applied to the variable capacitor diode in the local oscillator though the low pass filters.</td></tr>
<tr><td>16</td><td>Vss</td><td>Ground Terminal</td></tr>
</table>

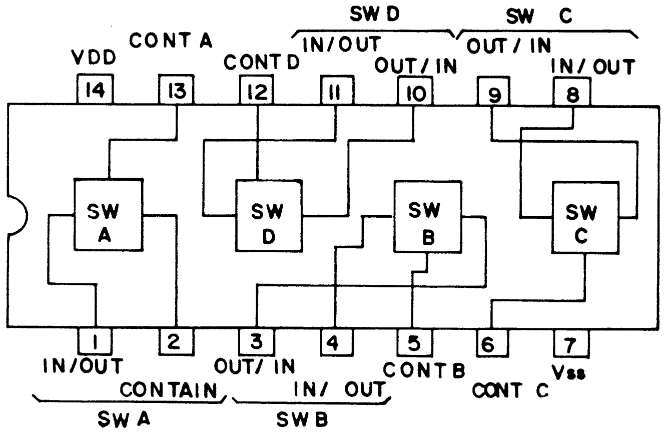
– MA12016:IC104(MPX IC)



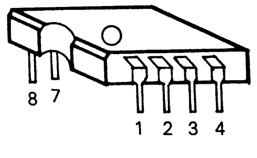

Vcc
INPUT
PRE OUT
PLL IN
PLL LOOP F
PLL LOOP F
VCO
A
B
C
D
E
F
G
5.6k
3.3k(B)
1
2
3
13
14
15
16
Volt Stabi
Pre Amp
P.D1 ∠90°
DC Amp
V.C.O 76kHz
F.F. 38kHz
F.F. 19kHz ∠90°
F.F. 19kHz ∠0°
Volt Senser
ST/MO SW
Decoder
OR
P.D2 ∠0°
DC Amp
SW With Hyst.
Lamp Driver
Post Amp
Post Amp
4
5
6
7
12
10
11
8
9
P
O
N
M
L
K
J
I
H
L OUT
L NF IN
R NF IN
R OUT
VCOSTP
LAMP LPF
LAMP LPF
GND
ST.IND

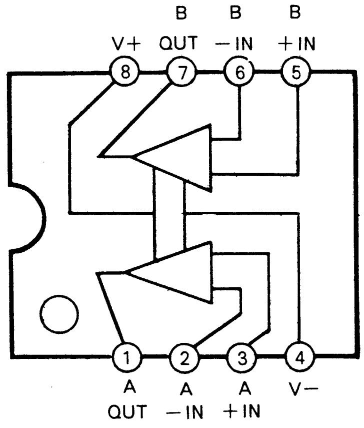
– LC4966:IC204, 303(Analog Switch)


8
14
LC 4966
7
1

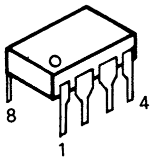

SW D
SW C
VDD
CONT A
CONT D
IN/OUT
OUT/IN
OUT/IN
IN/OUT
14
13
12
11
10
9
8
SW A
SW D
SW B
SW C
1
2
3
4
5
6
7
IN/OUT
CONTAIN
OUT/IN
IN/OUT
CONT B
CONT C
Vss
SW A
SW B

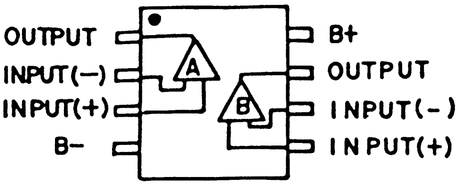
– NJM4560D/NJM4558DD/MC4560D:IC 104,203,301,302,309,601(Dual Op Amp)



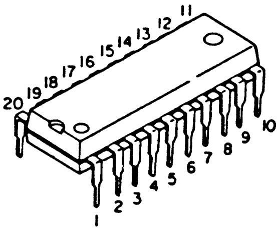

V+
B OUT
B −IN
B +IN
8
7
6
5
1
2
3
4
A OUT
A −IN
A +IN
V−

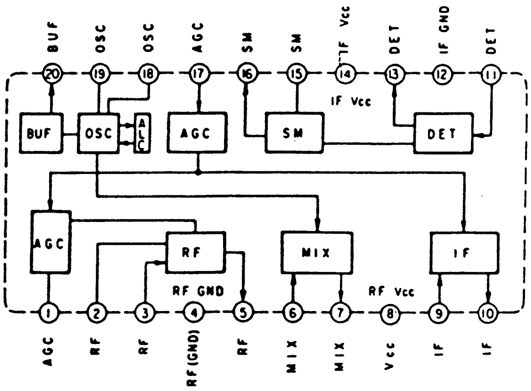
- NJM 2068DD: IC 201 (Op Amp)



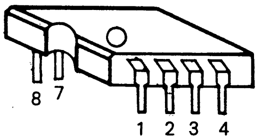

OUTPUT
INPUT(−)
INPUT(+)
B−
A
B
B+
OUTPUT
INPUT(−)
INPUT(+)

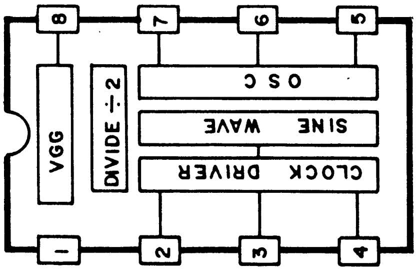
- LA 1245: IC 102


20
19
18
17
16
15
14
13
12
11
1
2
3
4
5
6
7
8
9
10

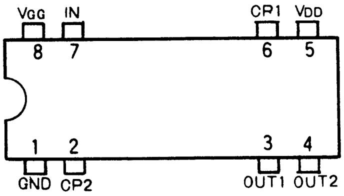

BUF
OSC
OSC
AGC
SM
SM
IF Vcc
DET
IF GND
DET
20
19
18
17
16
15
14
13
12
11
IF Vcc
BUF
OSC
ALC
AGC
SM
DET
AGC
RF
MIX
IF
RF GND
RF Vcc
1
2
3
4
5
6
7
8
9
10
AGC
RF
RF
RF(GND)
RF
MIX
MIX
Vcc
IF
IF

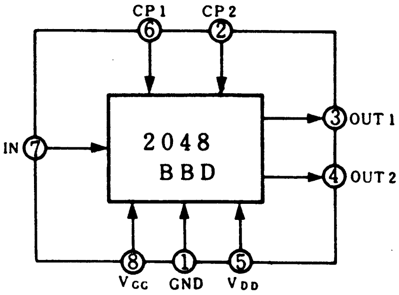
- MN 3101: IC 305 (BBD IC)



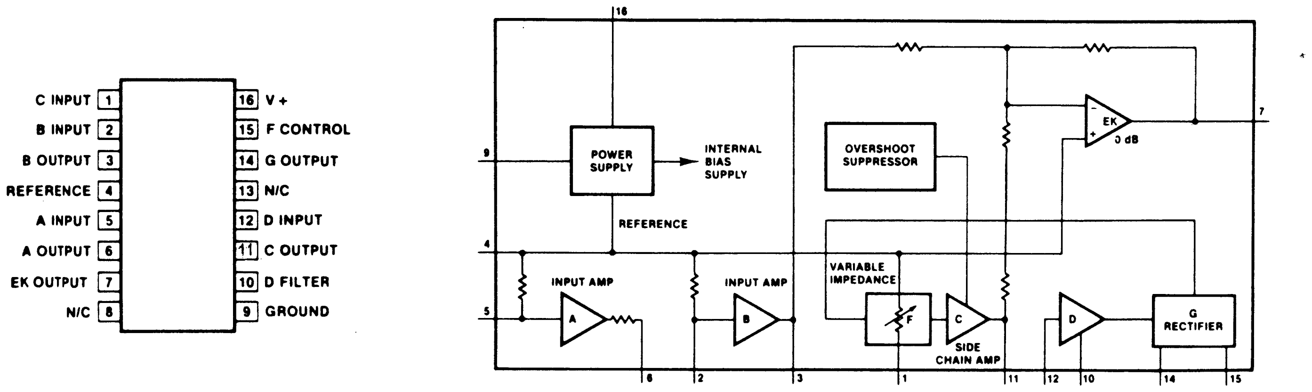

8
7
6
5
VGG
DIVIDE ÷ 2
OSC
SINE WAVE
CLOCK DRIVER
1
2
3
4

- MN 3008: IC 306 (BBD IC)

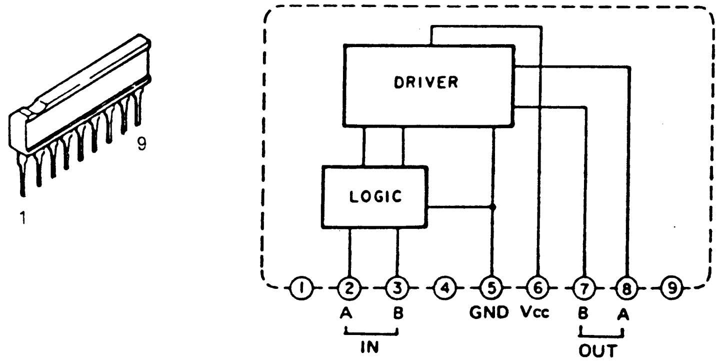

VGG
IN
CP1
VDD
8
7
6
5
1
2
3
4
GND
CP2
OUT1
OUT2


CP1
CP2
6
2
IN
7
2048
BBD
3
OUT 1
4
OUT 2
8
1
5
Vcc
GND
VDD

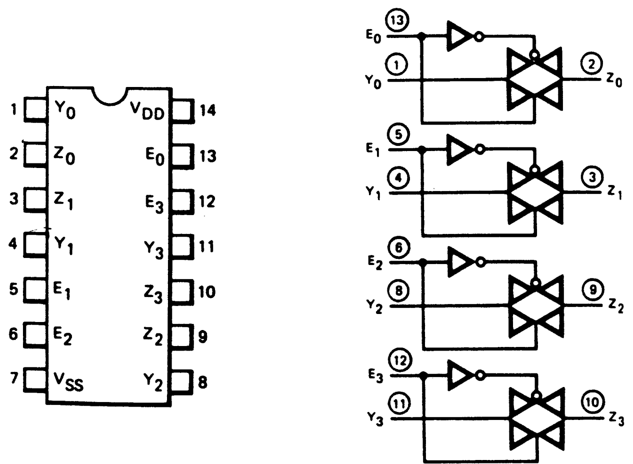
— NE646B:IC308(DOLBY NR IC)



— BA6208:IC 205



— GD4066B:IC701(Quad Bilateral Switches)



NOTE:
The SO Package has the same Pinouts(Connection Diagram) at the Dual-in-line Package.

V_{DD} = Pin 14
V_{SS} = Pin 7
O = Pin Numbers

Electrical Parts List

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. If yoy replacing any of these components, read carefully the product safety notice of this Manual.
RESISTORS & CAPACITORS Tolerance, D:±0.5%. J:±5%. K:±10%. M:20%. Z:+80%, −20%.

TUNER BOARD 4002017800

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C101	3529509210	Ceramic CH 5pF 50V J	A2	
C102	3529220210	Ceramic CH 22pF 50V J	A2	
C103	3529101210	Ceramic CH 100pF 50V J	B2	
C105	3579102530	Ceramic 0.001μF 50V J	B2	
C106	3579102530	Ceramic 0.001μF 50V J	B2	
C107	3579223530	Ceramic 0.022μF 50V J	B2	
C108	3529220210	Ceramic CH 22pF 50V J	B2	
C109	3529809210	Ceramic CH 8pF 50V J	A2	
C110	3529209210	Ceramic CH 2pF 50V J	A1	
C111	3529101210	Ceramic CH 100pF 50V J	A2	
C112	3579223530	Ceramic 0.022μF 50V J	B2	
C113	3579223530	Ceramic 0.022μF 50V J	B2	
C114	3579223530	Ceramic 0.022μF 50V J	A1	
C115	3529209210	Ceramic CH 2pF 50V J	B1	
C116	3529109110	Ceramic RM 8pF 50V J	B1	
C117	3529109210	Ceramic CH 1pF 50V J	B1	
C118	3529109110	Ceramic RM 8pF 50V J	B1	
C119	3529330210	Ceramic CH 33pF 50V J	B1	
C120	3529150210	Ceramic CH 15pF 50V J	B1	
C121	3579223530	Ceramic 0.022μF 50V J	B1	
C122	3579223530	Ceramic 0.022μF 50V J	A1	
C123	3529101210	Ceramic CH 100pF 50V J	B1	
C124	3579476530	Ceramic 0.047μF 50V J	B1	
C125	3409222131	Electrolytic 220μF 16V J	B2	
C126	3579223530	Ceramic 0.022μF 50V J	B2	
C127	3579473530	Ceramic 0.047μF 50V J	B2	
C128	3479247031	Electrolytic 47μF 16V J	B2	
C129	3579223530	Ceramic 0.022μF 50V J	C2	
C130	3579223530	Ceramic 0.022μF 50V J	C2	
C131	3579473530	Ceramic 0.047μF 50V J	C2	
C132	3409122971	Electrolytic 0.22μF 50V J	C2	
C133	3579223530	Ceramic 0.022μF 50V J	C2	
C134	3409210971	Electrolytic 1μF 50V J	C2	
C135	3579473530	Ceramic 0.047μF 50V J	C2	
C136	3579473530	Ceramic 0.047μF 50V J	C2	
C147	3579473530	Ceramic 0.047μF 50V J	C2	
C148	3478247031	Electrolytic SA 47μF 50V J	C2	
C149	3579473530	Ceramic 0.047μF 50V J	C2	
C150	3474210971	Electrolytic SA 1μF 50V J	C2	
C151	3579820130	Ceramic 82pF 50V J	C2	
C152	3579473530	Ceramic 0.047μF 50V J	C1	
C153	3619222110	Poly 2200μF 50V J	D1	
C154	3579223530	Poly 0.022μF 50V J	D2	
C155	3579223530	Poly 0.022μF 50V J	D2	
C156	3619471110	Poly 470pF	C1	
C157	3579473530	Ceramic 0.047μF 50V J	D1	
C158	3409210131	Electrolytic SA 100μF 16V J	D1	
C159	3479247971	Electrolytic SA 4.7μF 50V J	D1	
C160	3579473530	Ceramic 0.047μF 50V J	D1	
C161	3579103530	Ceramic 0.01μF 50V J	D1	
C162	3409133971	Electrolytic 3.3μF 50V J	D1	
C163	3509103530	Ceramic 0.01μF 50V J	D1	
C164	3579473530	Ceramic 0.047μF 50V J	D1	
C165	3579223530	Ceramic 0.047μF 50V J	D1	
C166	3479247031	Electrolytic 47μF 16V J	D1	
C167	3579223530	Ceramic 0.022μF 50V J	D1	
C168	3579223530	Ceramic 0.022μF 50V J	D2	
C169	3579102530	Ceramic 0.001μF 50V J	D1	
C170	3679332120	Mylar 0.0033μF 100V J	D1	
C171	3679473120	Mylar 0.047μF 100V J	D1	
C172	3479210971	Electrolytic SA 1μF 50V J	C1	
C174	3579103530	Ceramic 0.01μF 50V J	C1	
C175	3479247031	Ceramic 47μF 50V J	C1	
C176	3409222131	Ceramic 220μF 50V J	E1	
C177	3479247971	Ceramic 4.7μF 50V J	E1	
C178	3619681110	Poly 680pF 50V J	E1	
C179	3679473120	Mylar 0.047μF 100V J	E1	
C180	3479210971	Electrolytic 1μF 50V J	E1	
C181	3479233971	Electrolytic 3.3μF 50V J	E1	
C182	3619102110	Poly 1000pF 50V J	E1	
C183	3479210971	Electrolytic 1μF 50V J	E1	
C184	3479210970	Electrolytic 1μF 50V J	E1	
C185	3479210971	Electrolytic 3.3μF 50V J	E1	
C186 L/R	3679152120	Mylar 0.0015μF 100V J	E1	
C187 L/R	3479222041	Electrolytic 22μF 25V J	E2/E1	
C188	3471221130	Ceramic 220pF 50V J	E2	
C189 L/R	3479222971	Electrolytic 2.2μF 50V J	E2/F2	
C190 L/R	3679222120	Mylar 0.0022μF 100V J	E2/F2	
C191	3579270210	Ceramic CH 27pF 50V J	B1	
C192	3579270210	Ceramic CH 27pF 50V J	B1	
C193	3579103530	Ceramic 0.01μF 50V J	B1	
C194	3479247031	Electrolytic 47μF 16V J	C1	
C195	3479210061	Electrolytic 10μF 35V J	E2	
C196	3479247031	Electrolytic 47μF 16V J	D1	
C197	3579101130	Ceramic 100pF 50V J	C1	
C198	3579101130	Ceramic 100pF 50V J	B1	
C199	3579223530	Ceramic 0.022μF 50V J	B2	
C200	3579101130	Ceramic 100pF 50V J	C1	
C201	3579473530	Ceramic 0.047μF 50V J	D1	
• Coils				
IFT101	2838001030	FM, IFT	B2	
IFT102	2848001070	AM, IFT(A)	D1	
IFT103	2848001110	AM, IFT(B)	D1	
L101	2648001410	Spring 3T FM, ANT	A2	
L102	2648001400	Spring 6T FM, RF2	A2	
L103	2648001390	Spring 5T FM, RF1	B2	
L104	2648001400	Spring 6T FM, RF2	B2	
L105	2648001410	Spring 3T B2		
L106	2838001030	FM, OSC B1		
L107	2648601010	Inductor 2.2μH(large)	A1	
L108	2648601400	Inductor 2.2μH(large)	A2	
L109	2648601300	Inductor 36mH	D1	
L110	2608201120	AM ANT	C1	
L111	2638201150	AM OSC	D1	
L112	2648601430	Inductor 20.8mH	C2	D
L113	2648601400	2.2μH	B1	
• Detector coils				
DET101	2838501110	DET.(A)	C2	FM QUAD
DET102	2838501120	DET.(B)	C2	
• Condensers				
TC101	3838001000	Trimmer TZ 03R 110F	B2	
TC102	3838001000	Trimmer TZ 03R 110F	B2	
TC103	3838001000	Trimmer TZ 03R 110F	B2	
TC104	3838001000	Trimmer TZ 03R 110F	C1	
TC105	3838001010	Trimmer TZ 03R 200F	C1	
• Diodes				
D101	2058819107	Varactor KV 1310A-3	A2	
D102	2058819107	Varactor KV 1310A-3	A2	
D103	2058819107	Varactor KV 1310A-3	B2	
D104	2058819107	Varactor KV 1310A-3	B1	
D105	2058819106	Varactor KV 1236Z	C1	
D106	2058819106	Varactor KV 1236Z	C1	
D107	2058306101	1N4148	D2	
D108	2058306101	1N4148	D2	
D109	2058306101	1N4148	D2	
D110	2058599100	DZ3.3B	D2	
D111	2058306101	1N4148	D2	
D112	2058306101	1N4148	D2	
D113	•	Not used !		
D114	2058306101	1N4148	C2	
D115	2058306101	1N4148	E2	
D116	2058306101	1N4148	E2	
D117	2058306101	1N4148	D2	
D118	2058306101	1N4148	D2	
D119	2058306101	1N4148	E2	
D120	2058599100	DZ3.3B	E2	
D121	2058306101	1N4148	E2	
D122	2058306101	1N4148	E2	
D123	2058306101	1N4148	E2	
D124	2058306101	1N4148	E2	
• Filters				
LPF101	2658001050	Coil MPX, Black	E2	
LPF102	2658001050	Coil MPX, Black	F2	
BF101	3938101007	FM, BPF	A2	D

Ref. No.	Parts No.	Description	Position	Remark
BF102	3988001020	BFU 450 C 4N	D1	
SF101	3908001020	SFP 450H	D2	
CF101	3908011021	Ceramic Filter 10.7MLK-A	B2	
CF102	3908011021	Ceramic Filter 10.7MLK-A	B2	
CF103	3908011021	Ceramic Filter 10.7MLK-A	C2	
X-TAL101	3908101030	X-TAL 7.2MHz	B1	
•ICs				
IC101	2168411106	HA 12412	C2	
IC102	2168417100	AL 1245	D1	
IC103	2138017112	LM 7001	C1	
IC104	2168411105	HA 12016	E1	
• Resistors				
R101	3069102970	Carbon Film 1K ⅕W J	A2	
R102	3069105970	Carbon Film 1M ⅕W J	B3	
R103	3069473970	Carbon Film 47K ⅕W J	B3	
R104	3069104970	Carbon Film 100K ⅕W J	B3	
R105	3069560970	Carbon Film 56 ⅕W J	B2	
R106	3069181970	Carbon Film 180 ⅕W J	B2	
R107	3069101970	Carbon Film 100 ⅕W J	B2	
R108	3069333970	Carbon Film 33K ⅕W J	A2	
R109	3069333970	Carbon Film 33K ⅕W J	A2	
R110	3069561970	Carbon Film 560 ⅕W J	A1	
R111	3069473970	Carbon Film 47K ⅕W J	A1	
R112	3069103970	Carbon Film 10K ⅕W J	B1	
R113	3069822970	Carbon Film 8.2K ⅕W J	B1	
R114	3069332970	Carbon Film 3.3K ⅕W J	B1	
R115	3069101970	Carbon Film 100 ⅕W J	B1	
R116	3069474970	Carbon Film 470K ⅕W J	A1	
R117	3069101970	Carbon Film 100 ⅕W J	A1	
R118	3069273970	Carbon Film 27K ⅕W J	B2	
R119	3069272970	Carbon Film 2.7K ⅕W J	A2	
R120	3069471970	Carbon Film 470 ⅕W J	A2	
R121	3069561970	Carbon Film 560 ⅕W J	B2	
R122	3069181970	Carbon Film 180 ⅕W J	B2	
⚠ R123	3069560970	Metal Film 560 ¼W J	B1	
R124	3069104970	Carbon Film 100K ⅕W J	B3	
R125	3069560970	Metal Film 56 ¼W J	C2	
R127	3069332970	Carbon Film 3.3K ⅕W J	B2	
R128	3069331970	Carbon Film 330 ⅕W J	B2	
R129	3069681970	Carbon Film 680 ⅕W J	B2	
R130	3069331970	Carbon Film 330 ⅕W J	B2	
R131	3069331970	Carbon Film 330 ⅕W J	C2	
R132	3069472970	Carbon Film 4.7K ⅕W J	C1	
R133	3069101970	Metal Film 100 ¼W J	C2	
R135	3069333970	Carbon Film 33K ⅕W J	C2	
R136	3069333970	Carbon Film 33K ⅕W J	C2	
R137	3069153970	Carbon Film 15K ⅕W J	C2	
R138	3069332970	Carbon Film 3.3K ⅕W J	C2	
R139	3069102970	Carbon Film 1K ⅕W J	C2	
⚠ R140	3009101273	Metal Film 100 ¼W J	E1	
R141	3069753970	Carbon Film 75K ⅕W J	E2	
R142	3069102970	Carbon Film 1K ⅕W J	E1	
R143	3069562970	Carbon Film 5.6K ⅕W J	E1	
R144	3069223970	Carbon Film 22K ⅕W J	E1	
R145	3069223970	Carbon Film 22K ⅕W J	E1	
R146	3069104970	Carbon Film 100K ⅕W J	E1	
R147	3069103970	Carbon Film 10K ⅕W J	E2	
R148	3069473970	Carbon Film 47K ⅕W J	E2	
R149 L/R	3069513970	Carbon Film 51K ⅕W J	E2/E1	
R150 L/R	3069392970	Carbon Film 3.9K ⅕W J	E2/E1	
R151 L/R	3069243970	Carbon Film 24K ⅕W J	E2/E1	
R152 L/R	3069332970	Carbon Film 3.3K ⅕W J	E2	
R153 L/R	3069332970	Carbon Film 3.3K ⅕W J	E2/F2	
R154 L/R	3069332970	Carbon Film 3.3K ⅕W J	E2/F2	
R155 L/R	3069332970	Carbon Film 3.3K ⅕W J	F3/F2	
R156	3069392970	Carbon Film 3.9K ⅕W J	E2	
R157	3069103970	Carbon Film 10K ⅕W J	E2	
R158	3069822970	Carbon Film 8.2K ⅕W J	E2	
R159	3069332970	Carbon Film 3.3K ⅕W J	E2	
R160	3069223970	Carbon Film 22K ⅕W J	E2	
R161	3069103970	Carbon Film 10K ⅕W J	E2	
R162	3069223970	Carbon Film 22K ⅕W J	E2	
R163	3069103970	Carbon Film 10K ⅕W J	E2	
R164	3069224970	Carbon Film 220K ⅕W J	C1	
R165	3069333970	Carbon Film 33K ⅕W J	D2	
R166	3069105970	Carbon Film 1M ⅕W J	D2	
R167	3069471970	Carbon Film 470 ⅕W J	D2	
R168	3069101970	Carbon Film 100 ⅕W J	D2	
R169	3069221970	Carbon Film 220 ⅕W J	D2	
R170	3069224970	Carbon Film 220K ⅕W J	C1	

Ref. No.	Parts No.	Description	Position	Remark
R171	3069103970	Carbon Film 10K ⅕W J	D1	
⚠ R172	3009560273	Metal Film 56 ¼W J	D1	
R173	3069102970	Carbon Film 1K ⅕W J	D1	
R174	3069222970	Carbon Film 2.2K ⅕W J	D1	
R175	3069271970	Carbon Film 270 ⅕W J	D1	
R176	3069152970	Carbon Film 1.5K ⅕W J	D1	
R177	3069104970	Carbon Film 100K ⅕W J	D1	
R178	3009560273	Metal Film 56 ¼W J	D2	
R179	3069222970	Carbon Film 2.2K ⅕W J	D2	
R180	3069272970	Carbon Film 2.7K ⅕W J	D1	
R181	3069104970	Carbon Film 100K ⅕W J	D2	
R182	3069224970	Carbon Film 220K ⅕W J	D3	
R183	3069102970	Carbon Film 1K ⅕W J	C1	
R184	3069101970	Carbon Film 100 ⅕W J	B1	
R185	3069152970	Carbon Film 1.5K ⅕W J	C1	
⚠ R186	3009330273	Metal Film 33 ¼W J	C1	
R187	3069103970	Carbon Film 10K ⅕W J	C1	
⚠ R188	3009101273	Metal Film 100 ¼W J	C1	
R189	3069103970	Carbon Film 10K ⅕W J	C1	
R190	3069103970	Carbon Film 10K ⅕W J	C1	
R191	3069822970	Carbon Film 8.2K ⅕W J	C1	
R192	3069822970	Carbon Film 8.2K ⅕W J	C1	
R193	3069822970	Carbon Film 8.2K ⅕W J	D2	
R194	3069473970	Carbon Film 47K ⅕W J	D2	
R196	3069223970	Carbon Film 22K ⅕W J	D2	
R197	3069473970	Carbon Film 47K ⅕W J	D2	
R198	3069473970	Carbon Film 47K ⅕W J	D2	
R199	3069473970	Carbon Film 47K ⅕W J	E2	
R200	3069103970	Carbon Film 10K ⅕W J	E2	
R201	3069473970	Carbon Film 47K ⅕W J	D2	
R203	3069101970	Carbon Film 100 ⅕W J	B1	
R204	3069820970	Carbon Film 82 ⅕W J	D1	
• Transistors				
Q101	2018213100	FET 3SK 74L	B3	
Q102	2018206110	FET KT 161 GR	A1	
Q103	2008406103	NPN KTC 1923 Y	B1	
Q104	2008406103	NPN KTC 1923 Y	A1	
Q105	2008406103	NPN KTC 1923 Y	B2	
Q106	2008409101	LM 9018 F	B2	
Q107	2018207115	FET 2SK 192 GR	A1	
Q108	2018211100	FET KTC 168 D	C1	
Q109	2208606108	NPN KTC 2240 BL	B1	
Q110	2208206105	PNP KTA 1015 Y	C1	
Q111	2208206105	PNP KTA 1015 Y	C1	
Q112	2208606108	NPN KTC 1815 Y	D2	
Q113	2208606108	NPN KTC 815 Y	D2	
Q114	2208606108	NPN KTC 1815 Y	E2	
Q115	2208606108	NPN KTC 1815 Y	E2	
Q116	2208606108	NPN KTC 1815 Y	E2	
Q117	2208606108	NPN KTC 1815 Y	E2	
Q118	2208606108	NPN KTC 1815 Y	E2	
Q119	2208206105	PNP KTA 1015 Y	E2	
Q120	2208606108	NPN KTC 1815 Y	F2	
Q121	2208606108	NPN KTC 1815 Y	F2	
• Variable Resistors				
VR101	3248322420	Semi Fixed 220 KB	C2	Signal level
VR102	3248322320	Semi Fixed 22 KB	C2	Mute level
VR103	3248333220	Semi Fixed 3.3 KB	E1	VCO
VR104	3248322320	Semi Fixed 22 KB	D1	Signal
VR105	3248322420	Semi Fixed 220 KB	E2	Separation

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Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C366	3479210971	Electrolytic 1μF 50V M	G5	
C367	3479210971	Electrolytic 1μF 50V M	G4	
C501 L/R	3479247971	Electrolytic 4.7μF 50V M	J4	
C503 L/R	3479247971	Electrolytic 1000pF 50V M	J5/J3	
C504 L/R	3579150130	Electrolytic 15pF 50V M	J5/J3	
C505 L/R	3409210121	Electrolytic 10μF 10V M	J4	
C506 L/R	3579101030	Ceramic 10pF 50V	J4	
C507 L/R	3579101030	Ceramic 10pF 50V	J5/J3	
C508 L/R	3479150130	Ceramic 15pF 50V	J5/J3	
C509 L/R	3579471130	Ceramic 470pF 50V	J5/J3	
C510 L/R	3579473530	Ceramic 0.047μF 50V	I5/I3	
C511 L/R	3579101130	Ceramic 100pF 50V	I5/I3	
C512 L/R	3579473530	Ceramic 0.047μF 50V	J4	
C513 L/R	3579101130	Ceramic 100pF 50V	I5/I3	
C514 L/R	3479210991	Electrolytic 100μF 100VM	J5/J3	
C515 L/R	3479210991	Electrolytic 100μF 100V M	G5/G3	
C516 L/R	3479247871	Electrolytic 47μF 50V M	G5/J5	
C517	2579102530	Ceramic 1000pF 50V	J5	
C519	3409547111	Electrolytic 470μF 6.3V M	G5	
C520	3479247061	Electrolytic 47μF 35V M	G5	
C521	3409210141	Electrolytic 100μF 25V M	G5	
C523	3418582280	Electrolytic 8200μF 63V M	I4	
C524	3419582280	Electrolytic 8200μF 63V M	I4	
C525	3409222261	Electrolytic 2200μF 35V M	I4	
C526	3409210261	Electrolytic 2200μF 35V M	H3	
⚠ C527	3409210261	Electrolytic 1000μF 35V M	G4	
⚠ C528	3409210261	Electrolytic 1000μF 35V M	H4	
C529	3479222061	Electrolytic 22μF 35V M	G4	
C530	3479222061	Electrolytic 22μF 35V M	H4	
C531	3609334120	Mylar 0.33μF 150V	G1	D
C532	3609334120	Mylar 0.33μF 150V	G1	D
C535	3609334120	Mylar 0.33μF 150V	G1	
C540 L/R	3579472530	Ceramic 4700pF 50V	SPKR Jack	D
C541 L/R		Not used		
C542 L/R	3579472530	Ceramic 4700pF 50V	SPKR Jack	D
C543	3479222041	Electrolytic 22μF 25V	G3	
C544 L/R	3579104530	Ceramic 0.01μF 50V	J4/J4	D
• Diodes				
D309	2258106100	1N 4002	G4	
D310	2258106100	1N 4002	G4	
D501	2058306101	1N 4148	J4	
D502	2058306101	1N 4148	J4	
⚠ D503 L/R	2058599115	DZ 27BM	J5/J3	
D504 L/R	2058306101	1N 4148	J4/J4	
D505 L/R	2058306101	1N 4148	J4/J4	
D506 L/R	2058306101	1N 4148	I4/I4	
D507 L/R	2058306101	1N 4148	I4/I4	
D508 L/R	2258106100	1N 4002	I5/I3	
D509 L/R	2258106100	1N 4002	H5/H3	
D510 L/R	2058306101	1N 4148	J5/J3	
D511 L/R	2058306101	1N 4148	J5/J3	
D512	2258106100	1N 4002	G5	
⚠ D513	2058599111	DZ 18BM	G5	
D514	2258106100	1N 4002	G5	
• Fuses				
F301	5508212631	NB 3A 31.8	G3	
F509	5508213133	NB 6A 31.8	H4	
F510	5508213133	NB 3A 31.8	H4	
• ICs				
⚠ IC501	2168601106	GD 7818	H4	
⚠ IC502	2168600106	MC 7918	H4	
⚠ IC503	2168601105	GD 7818	G3	
• Relay				
⚠ RLY501	5528001440	HR-CR323 24V 5A	G5	

Ref. No.	Parts No.	Description	Position	Remark
• Resistors				
R501 L/R	3069332970	Carbon Film 3.3K 1/5W J	J4/J3	
R502 L/R	3069332970	Carbon Film 3.3K 1/5W J	J4/J3	
R503 L/R	3069151970	Carbon Film 150 1/5W J	J5/J3	
R504 L/R	3069473970	Carbon Film 47K 1/5W J	J5/J3	
R505 L/R	3069332970	Carbon Film 3.3K 1/5W J	J5/J3	
R506 L/R	3069332970	Carbon Film 3.3K 1/5W J	J5/J3	
R507 L/R	3069102970	Carbon Film 1K 1/5W J	I5/I3	
⚠ R508 L/R	3069332970	Metal Oxide 3.3K 1W J	J5/J3	
R509 L/R	3069122970	Carbon Film 1.2K 1/5W J	J5/J3	
R510 L/R	3069122970	Carbon Film 1.2K 1/5W J	J5/I3	
R511 L/R	3069103970	Carbon Film 10K 1/5W J	J4/J4	
R512 L/R	3069560970	Carbon Film 56 ⅕W J	J4/J4	
R513 L/R	3069470970	Carbon Film 47 ⅕W J	J4/J4	
R514 L/R	3069391970	Carbon Film 390 ⅕W J	J4/J4	
R515 L/R	3069123970	Carbon Film 12K ⅕W J	J4/J4	
R516 L/R	3069331970	Carbon Film 330 ⅕W J	J4/J4	
R517 L/R	3069273970	Carbon Film 27K ⅕W J	J4/J4	
R518 L/R	3069392970	Carbon Film 3.9K ⅕W J	I5/I3	
R519 L/R	3069183970	Carbon Film 18K ⅕W J	J4/J4	
⚠ R520 L/R	3009121273	Metal Film 120 1/4W J	I4/I4	
R521 L/R	3069332970	Carbon Film 3.3K ⅕W J	I5/I3	
R522 L/R	3069332970	Carbon Film 3.3K ⅕W J	I5/I3	
⚠ R523 L/R	3069391970	Carbon Film 390 ⅕W J	I3/I5	
R524 L/R	3039339472	Metal Oxide 3.3 1W J	J5/I3	
R525 L/R	3039339472	Metal Oxide 3.3 ⅕W J	H5/G3	
⚠ R526 L/R	3059478782	Cement 0.47 5W K	G5/H3	
⚠ R527 L/R	3059478782	Cement 0.47 5W K	J5/I3	
R528 L/R	3069472970	Carbon Film 4.7 ⅕W J	J5/J3	
R529 L/R	3069153970	Carbon Film 15K ⅕W J	J5/J3	
R530 L/R	3069183970	Carbon Film 18K ⅕W J	J5/J3	
R531 L/R	3069102970	Carbon Film 1K ⅕W J	J4/J4	
⚠ R532 L/R	3069121970	Metal Film 120 ¼W J	I5/I3	
R533 L/R	3069223970	Carbon Film 22K ⅕W J	J5	
R534 L/R	3069223970	Carbon Film 22K ⅕W J	J5	
R535 L/R	3069102970	Carbon Film 1K ⅕W J	J5	
⚠ R539 L/R	3039471572	Metal Oxide 470 2W	I5/I3	
⚠ R540 L/R	3069152970	Carbon Film 1.5K ⅕W	I5/I3	
R541	3069182970	Carbon Film 1.8K ⅕W J	G5	
R542	3069432970	Carbon Film 4.3K ⅕W J	G5	
R543	3069432970	Carbon Film 4.3K ⅕W J	G5	
R544	3069273970	Carbon Film 27K ⅕W J	G5	
R545	3069101970	Carbon Film 100 ⅕W J	G5	
⚠ R546	3039470472	Metal Oxide 47 1W J	G5	
⚠ R547	3039330572	Cement 33 2W K	H5	
R548	3039339472	Metal Oxide 3.3 1W J	G4	
R549	3039339472	Metal Oxide 3.3 1W J	H4	
R550	3069103970	Carbon Film 10K ⅕W J	G3	
⚠ R551	3069472970	Carbon Film 4.7K ⅕W J	G3	
R552	3069332970	Carbon Film 3.3K ⅕W J	G3	
⚠ R553	3039270472	Metal Oxide 27 1W J	G3	
R390	3059338582	Carbon Film 0.33 2W J	G4	
R391	3059338582	Carbon Film 0.33 2W J	G4	
• Transistors				
Q317	2028406123	2SD 2059Y	G4	
Q318	2028106109	2SD 1367Y	G4	
Q501 L/R	2008610102	2SD 1302S	J5/J3	
Q502 L/R	2008610102	2SD 1302S	J5/J3	
Q503 L/R	2018217700	2SK 332F	J5/J3	
Q504 L/R	2008606108	KTC 2240	J5/J3	
Q505 L/R	2008606108	KTC 2240	J5/J3	
Q506 L/R	2008609101	MPS A05	J4/J4	
Q507 L/R	2008610102	2SD 1302S	J5/J3	
Q508 L/R	2008610102	2SD 1302S	J5/J3	
Q509 L/R	2008610102	2SD 1302S	J5/J3	
Q510 L/R	2008207101	2SA 1360	J5/I3	
Q511 L/R	2008609107	MPS 9633C	J5/I3	
Q512 L/R	2008607106	2SC 3423	I4/I4	
Q513 L/R	2028407118	2SC 2168	J5/I3	
Q514 L/R	2028107115	2SA 958	I4/I4	
Q515 L/R	2028416110	2SC 3856	I5/I3	
Q516 L/R	2028116107	2SA 1492	H5/H3	
Q517 L/R	2008609102	MPS A06	J5/J3	
Q518	2008209102	MPS A56	J5	
Q519	2008609102	MPS A06	G5	
Q520	2008609102	MPS A06	G5	
Q521	2008609102	MPS A06	G5	
Q522	2008209102	MPS A56	G5	
Q523	2008609104	KTC 1815Y	G5	

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Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C203 L/R	3579680130	Ceramic 68pF 50V	L1/L1	
C204 L/R	3479247971	Electrolytic 4.7μF 50V	L1/L1	
C205 L/R	3579100030	Ceramic 10PpF 50V	L1/L1	
C206 L/R	3579222530	Ceramic 2200pF 50V	K1/K1	
C207 L/R	3409210121	Electrolytic 100μF 10V	L1/L1	
C208 L/R	3679182120	Mylar 0.0018μF 100V	K1/K1	
C209 L/R	3679562120	Mylar 0.0056μF 100V	K1/K1	
C210 L/R	3479247041	Electrolytic 47μF 25V	K1/K1	
C211 L/R	3479247041	Electrolytic 47μF 25V	K1/K1	
C212 L/R	3479268871	Electrolytic 0.68μF 50V	K1/K1	
C213 L/R	3679562120	Mylar 0.0056μF 100V	K1/K1	
C214 L/R	3579101130	Ceramic 100pF 50V	L1/L1	
C215 L/R	3579101130	Ceramic 100pF 50V	L1/L1	
C222 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C223 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C224 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C225 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C226 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C227 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C228 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C229 L/R	3579101130	Ceramic 100pF 50V	L2/L2	
C230	3479247041	Electrolytic 47μF 25V	I2	
C231	3479247041	Electrolytic 47μF 25V	I1	
C232	3479247041	Electrolytic 1μF 100V	I2	
C233	3479247041	Electrolytic 47μF 25V	I2	
C234	3479247041	Electrolytic 47μF 25V	I2	
C235 L/R	3479247971	Electrolytic 4.7μF	H1/I1	
C236 L/R	3579471130	Ceramic 470pF 50V	H1/I1	
C237 L/R	3658100395	Tantal 10μF 10V	H1/I1	
C238 L/R	3579561130	Ceramic 560pF 50V	H1/I1	
C239	3479247041	Electrolytic 47μF 25V	I1	
C240	3479247041	Electrolytic 47μF 25V	I1	
C243 L/R	3579101130	Ceramic 100pF 50V	L1/L1	
C244	3579473530	Ceramic 0.047μF 50V	L1	
C245 L/R	3579101130	Ceramic 100pF 50V	H1/I1	
C246	3409210131	Ceramic 100μF 50V	H1	
C247	3409247121	Electrolytic 470μF 16V	H1	
C248	3409247121	Electrolytic 470μF 10V	H1	
• Coil				
L201 L/R	2648601470	50μH	L1/L1	
• Diodes				
D101	2058306101	1N4148	I2	
D102	2308060102	LED, Red	G1	
⚠ D103	2058599104	DZ 5.6BM	H1	
D104	2058513102	DZ 4.3BM	H1	
D105	2058599113	DZ 24BM	H1	
• ICs				
IC201	2168020106	NJM 2068D	K1	
IC202	2168017132	LC 7821	J1	
IC203	2168220103	NJM 4560D	H1	
IC204	2138017108	LC 4966	I2	
IC205	2168022107	BA 6208	H1	
• Resistors				
R210 L/R	3069102970	Carbon Film 1K ⅕W J	L1/L1	
R211 L/R	3069913970	Carbon Film 91K ⅕W J	L1/L1	
R212 L/R	3069913970	Carbon Film 91K ⅕W J	L1/L1	
R213 L/R	3069911970	Carbon Film 910 ⅕W J	K1/K1	
R214 L/R	3069564970	Carbon Film 560K ⅕W J	K1/K1	
R215 L/R	3069433970	Carbon Film 43K ⅕W J	K1/K1	
R216 L/R	3069471970	Carbon Film 470 ⅕W J	K1/K1	
R217 L/R	3069104970	Carbon Film 100K ⅕W J	K1/K1	
R218 L/R	3069101970	Carbon Film 100 ⅕W J	K1/L1	
R219 L/R	3069102970	Carbon Film 1K ⅕W J	L1/L1	
R220 L/R	3069121970	Carbon Film 120 ⅕W J	L1/L1	
R226 L/R	3069121970	Carbon Film 120 ⅕W J	L2/L1	
R227 L/R	3069102970	Carbon Film 1K ⅕W J	L2/L1	
R228 L/R	3069121970	Carbon Film 120 ⅕W J	L2/L2	
R229 L/R	3069102970	Carbon Film 1K ⅕W J	L2/L2	
R230 L/R	3069121970	Carbon Film 120 ⅕W J	L2/L2	
R231 L/R	3069102970	Carbon Film 1K ⅕W J	L2/L2	
R232	3069101970	Carbon Film 100 ⅕W J	I1	
R233	3069101970	Carbon Film 100 ⅕W J	I1	
R234	3069104970	Carbon Film 100K ⅕W J	I2	
R235	3069101970	Carbon Film 100 ⅕W J	I2	
R236	3069101970	Carbon Film 100 ⅕W J	I2	
R237	3069473970	Carbon Film 47K ⅕W J	I1	
R238	3069513970	Carbon Film 51K ⅕W J	I1	
R239	3069104970	Carbon Film 100K ⅕W J	I1	
R240	3069103970	Carbon Film 10K ⅕W J	I1	
R241	3069103970	Carbon Film 10K ⅕W J	I1	
R242	3069472970	Carbon Film 4.7K ⅕W J	I1	
R243 L/R	3069104970	Carbon Film 100K ⅕W J	H1/I1	
R244	3069101970	Carbon Film 100 ⅕W J	H1	
R245	3069101970	Carbon Film 100 ⅕W J	H1	
R246 L/R	3069471970	Carbon Film 470 ⅕W J	H1/I1	
R247	3069104970	Carbon Film 100K ⅕W J	H1/I1	
R248 L/R	3069102970	Carbon Film 1K ⅕W J	H1/I1	
R249	3069333970	Carbon Film 33K ⅕W J	H1	
R250	3069272970	Carbon Film 2.7K ⅕W J	H1	
R251 L/R	3069104970	Carbon Film 100K ⅕W J	K2/K1	
R256	3069471970	Carbon Film 470 ⅕W J	H1/I1	
R257	3069272970	Carbon Film 2.7 ⅕W J	H1	
R258	3069101970	Carbon Film 100 ⅕W J	L1	
R259	3069222970	Carbon Film 2.2K ⅕W J	I1	
R260	3069103970	Carbon Film 10K ⅕W J	I1	
R263	3069473970	Carbon Film 47K ⅕W J	J1	
R264	3069473970	Carbon Film 47K ⅕W J	J1	
• Transistors				
Q201	2208606104	NPN, KTC 1815Y	I1	
Q202	2208206105	PNP, KTA1015Y	I1	
Q203	2208606104	NPN, KTC 1815Y	I1	
Q204	2208606104	NPN, KTC 1815Y	H1	

SURROUND S.P BOARD 4002017960

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C368	3579473530	Ceramic 0.047μF 50V	R1	
C369	3509472530	Ceramic 4700pF 50V	R1	
• Resistors				
R392	3609220970	Carbon Film 220 ⅕W	R1	
R396	3609220970	Carbon Film 220 ⅕W	R1	

SURROUND BOARD 4002017810

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C301 L/R	3479222971	Electrolytic 2.2μF 50V	D3/D3	
C302	3479247041	Electrolytic 47μF 25V	D3	
C303	3479247041	Electrolytic 47μF 25V	D3	
C304 L/R	3479247971	Electrolytic 4.7μF 50V	D3/D3	
C305	3579470130	Ceramic 47pF 50V	D4	
C306	3579470130	Ceramic 47pF 50V	D4	
C307	3579330130	Ceramic 33pF 50V	D4	
C308	3409833970	Electrolytic 3.3μF 50V	D4	
C309	3409833970	Electrolytic 3.3μF 50V	D4	
C310	3579222530	Ceramic 0.022μF 50V	D4	
C311	3579222530	Ceramic 0.022μF 50V	D4	
C312	3479210971	Electrolytic 1μF 50V	D4	
C313	3679682120	Mylar 0.0068μF 100V	D4	
C314	3679103120	Mylar 0.01μF 100V	D4	
C315	3579102530	Ceramic 1000pF 50V	D4	
C316	3479247041	Electrolytic 47μF 25V	C4	
C317	3479247041	Electrolytic 47μF 25V	C4	
C318	3479210971	Electrolytic 1μF 50V	C4	
C319	3479210971	Electrolytic 1μF 50V	C4	
C321	3679103120	Ceramic 0.01μF 50V	C3	
C322	3579101130	Ceramic 100pF 50V	C3	
C323	3679103120	Electrolytic 4.7μF 50V	C4	
C324	3409222141	Electrolytic 320μF 25V	C4	
C325	3579102530	Ceramic 0.01pF 50V	C3	
C326	3579102530	Ceramic 0.01pF 50V	C4	
C327	3409222141	Electrolytic 220μF 25V	C4	
C328	3579102530	Ceramic 1000pF 50V	C4	
C329	3479210971	Electrolytic 1μF 50V	C4	
C330	3479247041	Electrolytic 47μF 25V	B3	
C331	3479247041	Electrolytic 47μF 25V	C3	
C332	3679562120	Mylar 0.0056μF 100V	C4	
C333	3679472120	Mylar 0.0047μF 100V	C4	
C334	3579471130	Ceramic 470pF 50V	B3	
C335	3479210971	Electrolytic 1μF 50V	B4	
C336	3479210141	Electrolytic 100μF 25V	C4	
C337	3479233871	Electrolytic 0.33μF 50V	C4	
C338	3409210871	Electrolytic 0.1μF 50V	C4	
C339	3479210061	Electrolytic 10μF 35V	C4	
C340	3579103530	Ceramic 0.01μF 50V	C4	
C341	3579473530	Ceramic 0.47μF 50V	C4	
C342	3679472120	Mylar 0.0047μF 100V	B4	
C343	3679273120	Mylar 0.027μF 100V	B4	
C344	3579471130	Ceramic 470pF 50V	B4	
C345	3479210971	Electrolytic 1μF 50V	B4	
C346	3479210971	Electrolytic 1μF 50V	B4	
C347	3679562120	Mylar 0.0056μF 100V	B4	
C350	3479247041	Electrolytic 47μF 25V	B4	
C351	3479247041	Electrolytic 47μF 25V	B4	
C352	3479247971	Electrolytic 4.7μF 50V	B4	
C353	3479247971	Electrolytic 4.7μF 50V	B4	
C354	3579471130	Ceramic 470pF 50V	B4	
C355	3409210061	Electrolytic 10μF 35V	A4	
C356	3479210061	Electrolytic 10μF 35V	A4	
C357	3479247061	Electrolytic 47μF 35V	A4	
C358	3579221130	Ceramic 220pF 50V	A4	
C359	3579473530	Ceramic 0.047μF 50V	A4	
C360	3579200130	Ceramic 20pF 50V	A4	
C361	3409247031	Electrolytic 47μF 16V	A4	
C362	3579100130	Ceramic 5pF 50V	A4	
C363	3479247061	Electrolytic 47μF 35V	A4	
C364	3579221130	Ceramic 220pF 50V	A4	
C365	3579473530	Ceramic 0.047μF 50V	A4	
C371	3479210061	Electrolytic 10μF 35V	A3	
C372	3409222041	Electrolytic 22μF 25V	A3	
C373	3579222530	Ceramic 0.022μF 50V	D3	
C374	3579222530	Ceramic 0.022μF 50V	C3	
C375	3479247041	Electrolytic 47μF 25V	B4	
C376	3579221130	Ceramic 220pF 50V	A4	
C377	3579331130	Ceramic 330pF 50V	A4	
C379	3069102122	Mylar 0.001μF 100V	B4	
C380	3069562120	Mylar 0.0056μF 100V	B4	
• Diodes				
D303	2058306101	1N 4148	C4	
D304	2058306101	1N 4148	C4	
⚠ D305	2058599109	DZ 15BH	A4	
D306	2058306101	1N 4148	B3	
D307	2058306101	1N 4148	B3	
D308	2058306101	1N 4148	B3	
D309	Not used			
⚠ D311	2258106100	1N 4002	A3	
⚠ D312	2058599109	DZ 15BH	A3	
D313	2258106100	1N 4002	A3	
D314	2058306101	1N 4148	A3	
D315	2058306101	1N 4148	B3	
D316	2058306101	1N 4148	B3	
D317	2058599116	DZ 3.3B	B3	
⚠ D320	2058599116	DZ 3.3B	B3	
D322	2058306101	1N 4148	B3	
• ICs				
IC301	2168000114	MC4558	D3	
IC302	2168000114	MC4558	D4	
IC303	2138017108	LC4966	D4	
IC304	2168000114	MC4558C	C3	
IC305	2168010102	MN3101	C4	
IC306	2168010105	MN3008	C4	
IC307	2168000114	MC4558C	C3	
IC308	2168012100	NE646B	B4	
IC309	2168220103	NJM4560D	B4	
• Resistors				
R302 L/R	3069104970	Carbon Film 100K ⅕W J	D3/D3	
R303	3069101970	Carbon Film 100 ⅕W J	D3	
R304	3069101970	Carbon Film 100 ⅕W J	D3	
R305 L/R	3069104970	Carbon Film 100K ⅕W J	D3/D3	
R306	3069273970	Carbon Film 27K ⅕W J	D4	
R307	3069273970	Carbon Film 27K ⅕W J	D4	
R308	3069273970	Carbon Film 27K ⅕W J	D4	
R309	3069273970	Carbon Film 27K ⅕W J	D3	
R310	3069273970	Carbon Film 27K ⅕W J	D4	
R311	3069913970	Carbon Film 91K ⅕W J	D4	
R312	3069913970	Carbon Film 91K ⅕W J	D4	
R313	3069393970	Carbon Film 39K ⅕W J	D4	
R314	3069473970	Carbon Film 47K ⅕W J	D4	
R315	3069473970	Carbon Film 47K ⅕W J	D4	
R316	3069104970	Carbon Film 100K ⅕W J	D4	
R317	3069104970	Carbon Film 100K ⅕W J	D4	
R320	3069242970	Carbon Film 2.4K ⅕W J	D4	
R321	3069152970	Carbon Film 1.5K ⅕W J	D4	
R322	3069123970	Carbon Film 12K ⅕W J	D4	
R323	3069242970	Carbon Film 2.4K ⅕W J	D4	
R324	3069101970	Carbon Film 100 ⅕W J	D4	
R325	3069101970	Carbon Film 100 ⅕W J	D4	
R326	3069102970	Carbon Film 1K ⅕W J	C4	
R327	3069104970	Carbon Film 100K ⅕W J	C4	
R334	3069473970	Carbon Film 43K ⅕W J	C3	
R335	3069223970	Carbon Film 22K ⅕W J	C3	
R337	3069104970	Carbon Film 100K ⅕W J	C4	
R338	3069104970	Carbon Film 100K ⅕W J	C4	
R339	3069562970	Carbon Film 5.6K ⅕W J	C4	
R340	3069562970	Carbon Film 5.6K ⅕W J	C4	
R341	3069104970	Carbon Film 100K ⅕W J	C3	
R342	3069822970	Carbon Film 8.2K ⅕W J	C4	
R343	3069822970	Carbon Film 8.2K ⅕W J	C4	
R344	3069822970	Carbon Film 8.2K ⅕W J	B3	
R345	3069153970	Carbon Film 15K ⅕W J	B4	
R346	3069103970	Carbon Film 10K ⅕W J	C4	
R347	3069152970	Carbon Film 1.5K ⅕W J	C4	
R348	3069242970	Carbon Film 2.4K ⅕W J	B4	
R349	3069101970	Carbon Film 100 ⅕W J	B4	
R350	3069101970	Carbon Film 100 ⅕W J	B4	
R351	3069101970	Carbon Film 100 ⅕W J	C3	
R352	3069102970	Carbon Film 1K ⅕W J	B4	
R353	3069274970	Carbon Film 270K ⅕W J	C4	
R354	3069473970	Carbon Film 47K ⅕W J	B4	
R355	3069332970	Carbon Film 3.3K ⅕W J	C4	
R356	3069473970	Carbon Film 47K ⅕W J	B4	
R357	3069332970	Carbon Film 3.3K ⅕W J	B4	
R358	3069203970	Carbon Film 20K ⅕W J	B4	
R359	3069683970	Carbon Film 68K ⅕W J	B4	
R360	3069333970	Carbon Film 33K ⅕W J	B4	
R361	3069203970	Carbon Film 20K ⅕W J	B4	
R362	3069102970	Carbon Film 1K ⅕W J	B4	
R364	3069472970	Carbon Film 4.7K ⅕W J	B4	
R365	3069101970	Carbon Film 100 ⅕W J	B4	
R366	3069101970	Carbon Film 100 ⅕W J	B4	
R367	3069203970	Carbon Film 20K ⅕W J	B4	
R368	3069124970	Carbon Film 120K ⅕W J	B4	

Ref. No.	Parts No.	Description	Position	Remark
R369	3069471970	Carbon Film 470 ⅕W J	B4	
R370	3069104970	Carbon Film 100K ⅕W J	B4	
R372	3069102970	Carbon Film 1K ⅕W J	B3	
R373	3069332970	Carbon Film 3.3K ⅕W J	B3	
R374	3069332970	Carbon Film 3.3K ⅕W J	B3	
R375	3069821970	Carbon Film 820 ⅕W J	B4	
R376	3069471970	Carbon Film 470 ⅕W J	B4	
R377	3069473970	Carbon Film 47K ⅕W J	A4	
R378	3069153970	Carbon Film 15K ⅕W J	A4	
⚠ R379	3039122472	Metal Oxide 1.2K 1W	A4	
R380	3069332970	Carbon Film 3.3K ⅕W J	A3	
R381	3069122970	Carbon Film 1.2K ⅕W J	A4	
R382	3069152970	Carbon Film 1.5K ⅕W J	A4	
R383		Not used		
R384	3069182970	Carbon Film 1.8K ⅕W J	A4	
R385	3069432970	Carbon Film 4.3K ⅕W J	A4	
R386	3069472970	Carbon Film 4.7K ⅕W J	A4	
R387	3069152970	Carbon Film 1.5K ⅕W J	A4	
R388	3069333970	Carbon Film 33K ⅕W J	A4	
⚠ R389	3069271970	Carbon Film 270 ⅕W J	A4	
⚠ R390	3059278582	Cement 0.33 2W	A4	
⚠ R391	3059278582	Cement 0.33 2W	A4	
R393	3069272970	Carbon Film 2.7K ⅕W J	A3	
R394	3069393970	Carbon Film 39K ⅕W J	A3	
R395	3069103970	Carbon Film 10K ⅕W J	A3	
R397	3069103970	Carbon Film 10K ⅕W J	A3	
R398	3069101970	Carbon Film 100 ⅕W J	A3	
R399	3069104970	Carbon Film 100K ⅕W J	C3	
R400	3069104970	Carbon Film 100K ⅕W J	C3	
R401	3069103970	Carbon Film 10K ⅕W J	C3	
R402	3069103970	Carbon Film 10K ⅕W J	C3	
R403	3069103970	Carbon Film 10K ⅕W J	C3	
R404	3069103970	Carbon Film 10K ⅕W J	D3	
R405	3069104970	Carbon Film 100K ⅕W J	D3	
R406	3069104970	Carbon Film 100K ⅕W J	D3	
R407	3069104970	Carbon Film 100K ⅕W J	C3	
R408	3069104970	Carbon Film 100K ⅕W J	B3	
R409	3069222970	Carbon Film 2.2K ⅕W J	C3	
R410	3069222970	Carbon Film 2.2K ⅕W J	B3	
R411	3069473970	Carbon Film 47K ⅕W J	B3	
R413	3069103970	Carbon Film 10K ⅕W J	B4	
R414	3069181970	Carbon Film 180 ⅕W J	B4	
R415	3069102970	Carbon Film 1K ⅕W J	B4	
R416	3069561970	Carbon Film 560 ⅕W J	A4	
R417	3069683970	Carbon Film 68K ⅕W J	A4	
R418	3069222970	Carbon Film 2.2K ⅕W J	C3	
R419	3069222970	Carbon Film 2.2K ⅕W J	B3	
R420	3069104970	Carbon Film 100K ⅕W J	B3	
R421	3069332970	Carbon Film 3.3K ⅕W J	D3	
R422	3069104970	Carbon Film 100K ⅕W J	D4	
R423	3069512970	Carbon Film 5.1K ⅕W J	C4	
R424	3069562970	Carbon Film 5.6K ⅕W J	C4	
• Transistors				
Q121	2208606104	KTC 1815Y	B3	
Q301	2208606104	KTC 1815	C3	
Q302	2208606104	KTC 1815	C3	
Q303	2208206105	KTA 1015	C3	
Q304	2208206105	KTA 1015	D3	
Q305	2208606104	KTC 1815	C3	
Q306	2208606104	KTC 1815	B3	
Q308	2008610102	2SD 1302S	B3	
Q309	2008610102	2SD 1302S	B4	
Q310	2208206104	KTA 970BL	A4	
Q311	2208206104	KTA 970BL	A4	
Q312		Not usedl		
Q313	2008609102	MPS A06	A4	
Q314	2008609102	MPS A06	A4	
Q315	2008209102	MPS A56	A4	
Q316	2008609102	MPS A06	A4	
Q319	2008609102	MPS A06	A3	
Q320	2008609102	MPS A06	A3	
Q322 L/R	2008610102	2SD 1302S	D3/D3	

CPU BOARD 4002017900

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C601	3479210031	Electrolytic 10µF 16V	P2	
C602	3479210971	Electrolytic 1µF 50V	P2	
C603	3439110420	Electrolytic 0.1µF 5.5V	P3	
C604	3529270210	Ceramic CH 27pF 50V	P3	
C605	3529270210	Ceramic CH 27pF 50V	P2	
C606	3479210041	Electrolytic 10µF 25V	R3	
C607	3579681230	Ceramic 680pF 50V	R2	
C608	3479210971	Electrolytic 1µF 50V	R2	
X-TAL601	3908101150	6MHz	P2	
• Diodes				
D401	2308220507	LED SLV 56 DC3	P3	
D402	2308220507	LED SLV 56 DC3	P3	
D601	2058306101	1N 4148	P3	
D603	2058306101	1N 4148	O3	
D604	2058306101	1N 4148	P3	
D704	2308220507	LED SLV 56 DC3	P3	
D705	2308220507	LED SLV 56 DC3	P3	
• ICs				
IC601	2168017131	LC75280	Q3	
IC602	2130309103	DWP 400 Microprossor	P2	
• Resistors				
R457	3069151970	Carbon Film 150 ⅕W J	P3	
NR614	3088103279	Network 10K 10P	P2	
NR615	3088122172	Network 1.2K 10P	P2	
NR616	3088473173	Network 47K 11P	O2	
R617	3069513970	Carbon Film 51K ⅕W J	R2	
R618	3069513970	Carbon Film 51K ⅕W J	R2	
R619	3069513970	Carbon Film 51K ⅕W J	R2	
R620	3069513970	Carbon Film 51K ⅕W J	R2	
R621	3069513970	Carbon Film 51K ⅕W J	R2	
R622	3069513970	Carbon Film 51K ⅕W J	R2	
R623	3069103970	Carbon Film 10K ⅕W J	O2	
R624	3069103970	Carbon Film 10K ⅕W J	Q2	
R625	3069102970	Carbon Film 1K ⅕W J	P2	
R626	3069103970	Carbon Film 10K ⅕W J	Q3	
R627	3069473970	Carbon Film 47K ⅕W J	R2	
R628	3069683970	Carbon Film 680K ⅕W J	R3	
R629	3069122970	Carbon Film 1.2K ⅕W J	R3	
R630	3069103970	Carbon Film 10K ⅕W J	R2	
R631	3069222970	Carbon Film 2.2K ⅕W J	R3	
R632	3069103970	Carbon Film 10K ⅕W J	R3	
R633	3069301970	Carbon Film 330 ⅕W J	O3	
R634	3069103970	Carbon Film 10K ⅕W J	O3	
R635	3069472970	Carbon Film 4.7K ⅕W J	O3	
R636	3069104970	Carbon Film 100K ⅕W J	P3	
R637	3069472970	Carbon Film 4.7K ⅕W J	Q2	
R638	3069222970	Carbon Film 2.2K ⅕W J	R2	
R639	3069472970	Carbon Film 4.7K ⅕W J	Q2	
R640	3069222970	Carbon Film 2.2K ⅕W J	R2	
R641	3069472970	Carbon Film 4.7K ⅕W J	R2	
R642	3069103970	Carbon Film 10K ⅕W J	R2	
R643	3069103970	Carbon Film 10K ⅕W J	R2	
R644	3069332970	Carbon Film 3.3K ⅕W J	O2	
R645	3069683970	Carbon Film 82K ⅕W J	P3	
R646	3069102970	Carbon Film 1K ⅕W J	Q2	
R647	3069102970	Carbon Film 1K ⅕W J	Q2	
• Transistors				
Q601	2208606104	KTC 1815Y	R2	
Q602	2208606104	KTC 1815Y	R2	
Q603	2208606104	KTC 1815Y	R2	
Q604	2208606104	KTC 1815Y	R2	
Q605	2208606104	KTC 1815Y	R2	
Q606	2208606104	KTC 1815Y	O2	
Q607	2208206105	KTA 1015Y	R3	
Q608	2208606104	KTC 1815Y	R2	
Q609	2208606104	KTC 1815Y	O1	

VIDEO BOARD 4002017720

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C216 L/R	3579101130	Ceramic 100pF 50V	K3/K3	
C217 L/R	3579101130	Ceramic 100pF 50V	K3/K3	
C218 L/R	3579101130	Ceramic 100pF 50V	K3/K3	
C219 L/R	3579101130	Ceramic 100pF 50V	K3/K3	
C220 L/R	3579101130	Ceramic 100pF 50V	K3/K3	
C221 L/R	3579101130	Ceramic 100pF 50V	K3/K3	
C701		Not usedl		
C702	3479247031	Eletrolytic 47µF 16V	L5	
C703	3579223530	Ceramic 0.022µF 50V	L5	
C704	3409210121	Eletrolytic 100µF 10V	K4	
C705	3579221130	Ceramic 220pF 50V	L4	
C706	3479210061	Eletrolytic 10µF 35V	L4	
C707	3409247041	Eletrolytic 47µF 25V	L4	
C708	3409210233	Eletrolytic 1000µF 16V	K5	
C709	3409210141	Eletrolytic 1000µF 25V	K5	
C710	3409247031	Eletrolytic 1000µF 16V	K5	
C711	3409210131	Eletrolytic 1000µF 16V	K4	
• Coils				
L701	2648601850	18µH	L4	
• Diodes				
D701	2058306101	1N 4148	L5	
D703	2058306101	1N 4148	L5	
• IC				
IC701	2138001101	GD 4066	L5	
• Resistors				
R221 L/R	3069102970	Carbon Film 1K ⅕W J	K3/K3	
R222 L/R	3069101970	Carbon Film 100 ⅕W J	K3/K3	
R223 L/R	3069102970	Carbon Film 1K ⅕W J	K3/K4	
R224 L/R	3069101970	Carbon Film 100 ⅕W J	K3/K4	
R225 L/R	3069102970	Carbon Film 1K ⅕W J	L2/L2	
R226 L/R	3069101970	Carbon Film 100 ⅕W J	L2/L2	
R701	3069101970	Carbon Film 100 ⅕W J	L5	
R702	3069101970	Carbon Film 100 ⅕W J	L5	
R703	3069332970	Carbon Film 3.3K ⅕W J	L5	
R704	3069332970	Carbon Film 3.3K ⅕W J	L5	
R705	3069104970	Carbon Film 100K ⅕W J	L4	
R707	3069104970	Carbon Film 100K ⅕W J	L4	
R708	3069332970	Carbon Film 3.3K ⅕W J	L5	
R709	3069104970	Carbon Film 100K ⅕W J	L4	
R710	3069104970	Carbon Film 100K ⅕W J	K4	
R711	3069104970	Carbon Film 100K ⅕W J	K4	
R712	3069682970	Carbon Film 6.8K ⅕W J	K4	
R713	3069223970	Carbon Film 22K ⅕W J	K4	
R714	3069471970	Carbon Film 470 ⅕W J	L4	
R715	3069681970	Carbon Film 180 ⅕W J	L4	
R716	3069471970	Carbon Film 470 ⅕W J	L4	
R717	3069181970	Carbon Film 180 ⅕W J	L4	
R718	3069471970	Carbon Film 470 ⅕W J	L4	
R719	3069102970	Carbon Film 1K ⅕W J	L4	
R720	3069562970	Carbon Film 5.6K ⅕W J	L4	
R721	3069182970	Carbon Film 1.8K ⅕W J	L4	
R722	3069331970	Carbon Film 330 ⅕W J	K5	
R723	3069680970	Carbon Film 68 ⅕W J	K5	
R724	3069103970	Carbon Film 10K ⅕W J	K5	
R725	3069104970	Carbon Film 100K ⅕W J	L5	
R726	3069104970	Carbon Film 100K ⅕W J	K5	
R727	3069750970	Carbon Film 75 ⅕W J	K5	
R728	3069331970	Carbon Film 330 ⅕W J	K5	
R729	3069680970	Carbon Film 68 ⅕W J	K5	
R730	3069103970	Carbon Film 10K ⅕W J	K5	
R731	3069104970	Carbon Film 100K ⅕W J	L4	
R732	3069104970	Carbon Film 100K ⅕W J	K4	
R733	3069750970	Carbon Film 75 ⅕W J	K4	
R734	3069332970	Carbon Film 3.3K ⅕W J	L5	
• Transistors				
Q701	2208606104	KTC 1815Y	L5	
Q702	2208606104	KTC 1815Y	L5	
Q703	2208606105	KTA 1015Y	L5	
Q704	2208606104	KTC 1815Y	L5	
Q705	2208606104	KTC 1815Y	L5	
Q706	2208606104	KTC 1815Y	L4	
Q707	2208606104	KTC 1815Y	L4	

EQ BOARD 4002017920

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C411 L/R	3479247971	Electrolytic 4.7µF	N1/N1	
C412 L/R	3658225201	Tantal 2.2µF	N1/N1	
C413 L/R	3679393120	Mylar 0.039µF	N1/N1	
C414 L/R	3658474201	Tantal 0.047µF	N2/N2	
C415 L/R	3679123120	Mylar 0.012µF	N2/N2	
C416 L/R	3679683120	Mylar 0.068µF	N2/N2	
C417 L/R	3679392120	Mylar 0.0039µF	N2/N2	
C418 L/R	3679153120	Mylar 0.015µF	N2/N2	
C419 L/R	3679122120	Mylar 0.0012µF	N2/N2	
C420 L/R	3679332120	Mylar 0.0033µF	N2/N2	
C421 L/R	3579391130	Ceramic 390pF	N2/N3	
C422 L/R	3579470130	Ceramic 47pF	N1/N1	
C423	3479247041	Electrolytic 47pF 25V	O1	
C424	3479247041	Electrolytic 47pF 25V	O1	
C425 L/R	3409247971	Electrolytic 47pF 50V	N1/N1	
C426 L/R	3579561130	Ceramic 560pF 50V	N1/N1	
• Diodes				
D401	2308220507	LED AMBER	N1	
D402	2308220507	LED AMBER	N1	
• IC				
IC402	2168020101	NJM 4560S	N1	
• Resistors				
R430 L/R	3069472970	Carbon Film 4.7K ⅕W J	N3/N1	
R431 L/R	3069104970	Carbon Film 100K ⅕W J	N3/N2	
R432 L/R	3069682970	Carbon Film 68K ⅕W J	O1/N1	
R433 L/R	3069122970	Carbon Film 1.2K ⅕W J	N1/N2	
R434 L/R	3069123970	Carbon Film 12K ⅕W J	O1/N2	
R435 L/R	3069331970	Carbon Film 330 ⅕W J	O1/N1	
R436 L/R	3069683970	Carbon Film 68K ⅕W J	N1/N2	
R437 L/R	3069122970	Carbon Film 1.2K ⅕W J	N2/N2	
R438 L/R	3069123970	Carbon Film 12K ⅕W J	N2/N2	
R439 L/R	3069331970	Carbon Film 330 ⅕W J	N2/N2	
R440 L/R	3069683970	Carbon Film 68K ⅕W J	N2/N2	
R441 L/R	3069122970	Carbon Film 1.2K ⅕W J	N2/N2	
R442 L/R	3069123970	Carbon Film 12K ⅕W J	N2/N2	
R443 L/R	3069331970	Carbon Film 330 ⅕W J	N2/N2	
R444 L/R	3069683970	Carbon Film 68K ⅕W J	N2/N2	
R445 L/R	3069122970	Carbon Film 1.2K ⅕W J	N2/N2	
R446 L/R	3069123970	Carbon Film 12K ⅕W J	N2/N2	
R447 L/R	3069331970	Carbon Film 330 ⅕W J	N2/N2	
R448 L/R	3069683970	Carbon Film 68K ⅕W J	N2/N2	
R449 L/R	3069122970	Carbon Film 1.2K ⅕W J	N2/N2	
R450 L/R	3069123970	Carbon Film 12K ⅕W J	N2/N3	
R451 L/R	3069331970	Carbon Film 330 ⅕W J	N2	
R452	3069101970	Carbon Film 100 ⅕W J	O1	
R453	3069101970	Carbon Film 100 ⅕W J	O1	
R454 L/R	3069472970	Carbon Film 4.7K ⅕W J	N1/N1	
R455 L/R	3069471970	Carbon Film 470 ⅕W J	N1/N1	
R456 L/R	3069104970	Carbon Film 100K ⅕W J	N1/N1	
• Transistors				
Q401 L/R	2208606104	KTC 1815	N1/N2	
Q402 L/R	2208606104	KTC 1815	O2/N2	
Q403 L/R	2208606104	KTC 1815	O2/N2	
Q404 L/R	2208606104	KTC 1815	O2/N2	
Q405 L/R	2208606104	KTC 1815	O2/N3	

STANDBY REGULATOR BOARD 4002017820

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C801	3409247131	Electrolytic 470μF 16V	E3	
C802	3409247061	Electrolytic 47μF 35V	E3	
C803	3479210061	Electrolytic 10μF 35V	E3	
C804	3479210971	Electrolytic 1μF 50V	E3	
C805	3579473530	Ceramic 0.047μF 50V	F3	
C806	3579473530	Ceramic 0.047μF 50V	F3	
• Diodes				
⚠ D801	2258106100	1N 4002	F3	
D802	2258106100	1N 4002	F3	
⚠ D803	2258106100	1N 4002	F3	
D804	2258106100	1N 4002	F3	
⚠ D805	2258106100	1N 4002	E4	
• Fuses				
⚠ F802	5508110931	0.15A SB 31.8mm	F4	
⚠ F508	5508212931	4A NB 31.8mm	E4	
• IC				
⚠ IC801	2168601110	GD 7806	E3	
• Relay				
⚠ RLY801	5528001330	HR-CR313 12V, 5A	E4	
• Resistors				
R801	3069339270	Metal Film 3.3 ¼W J	E3	
R802	3069332970	Carbon Film 3.3K ⅕W J	E4	
R803	3069335970	Carbon Film 3.3M ⅕W J	F3	
• Transistor				
Q801	2008609101	MPSA 06		

SENSOR BOARD 4002017970

Ref. No.	Parts No.	Description	Position	Remark
• IC				
IC603	2138000129	BX1483	Q1	

VOLUME BOARD 4002017730

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C403 L/R	3479247971	Electrolytic 4.7μF 50V	G2/G1	
C404 L/R	3579470130	Ceramic 47pF 50V	G2/G2	
C405 L/R	3579331130	Ceramic 330pF 50V	G2/G2	
C406	3479247041	Electrolytic 47μF 25V	G2	
C407	3479247041	Electrolytic 47μF 50V	G2	
C408 L/R	3579470130	Ceramic 47pF 50V	G2/G2	
C409 L/R	3479247971	Electrolytic 4.7μF 50V	G2/G2	
C410 L/R	3579102530	Ceramic 1000pF 50V	G2/G2	
• IC				
IC401	2168020106	NJM 2068DD	G2	
• Resistors				
R420	3069823970	Carbon Film 82K ⅕W J	G2/G2	
R422	3069471970	Carbon Film 470 ⅕W J	G2/G1	
R423	3069473970	Carbon Film 47K ⅕W J	G2/G1	
R424	3069271970	Carbon Film 270 ⅕W J	G2/G2	
R425	3069202970	Carbon Film 2K ⅕W J	G2/G2	
R426	3069101970	Carbon Film 100 ⅕W J	G2	
R427	3069101970	Carbon Film 100 ⅕W J	G2	
R428	3069471970	Carbon Film 470 ⅕W J	G2/G2	
R429	3069104970	Carbon Film 100K ⅕W J	G2/G2	

FUNCTION BOARD 4002017910

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C401 L/R	3579331130	Ceramic 330pF 50V	R2/R1	
C402 L/R	3479233871	Electrolytic 0.33μF 50V	R2/R1	
• Resistors				
R421 L/R	3069182970	Carbon Film 1.8K ⅕W J	R2/R1	
R605	3069122970	Carbon Film 1.2K ⅕W J	P2	
R606	3069122970	Carbon Film 1.2K ⅕W J	O2	
R607	3069122970	Carbon Film 1.2K ⅕W J	O2	
R608	3069122970	Carbon Film 1.2K ⅕W J	O2	
R609	3069122970	Carbon Film 1.2K ⅕W J	Q2	
R610	3069122970	Carbon Film 1.2K ⅕W J	Q2	
R611	3069122970	Carbon Film 1.2K ⅕W J	R2	
R612	3069122970	Carbon Film 1.2K ⅕W J	Q2	
R613	3069122970	Carbon Film 1.2K ⅕W J	Q2	

SPEAKER BOARD 4002017930

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C518 L/R	3579223530	Ceramic 0.022μF 50V	M3/M3	
C522 L/R	3579561130	Ceramic 560pF 50V	M3/M3	
C540 L/R	3579472530	Ceramic 4700pF 50V	M3/M3	
C541 L/R	3579472530	Ceramic 4700pF 50V	M3/M3	
• Coil				
L501 L/R	2648001010	0.5μH	M3/M3	
• Resistors				
R536 L/R	3069221970	Carbon Film 22 ⅕W	M3/M3	
R537 L/R	3069221970	Carbon Film 22 ⅕W	M3/M3	
R538 L/R	3069100970	Carbon Film 10 ⅕W	M3/M3	
R539 L/R	3039471572	Metal Oxide 470 ¼W	M3/M3	
R540 L/R	3069152970	Metal Oxide 1.5K ⅕W	M3/M3	

REGULATOR BOARD 4002017940

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C533	3059103450	Ceramic 0.01μF 500V	N2	
C534	3059103450	Ceramic 0.01 μF 500V	M2	
C536	3579473530	Ceramic 0.01μF 500V	M1	
C537	3579473530	Ceramic 0.047μF 50V	M1	
C538	3579473530	Ceramic 0.047μF 50V	N1	
C539	3579473530	Ceramic 0.047μF 50V	N1	
• Diodes				
⚠ D516	2058100105	1N 5402	M2	
⚠ D517	2058100105	1N 5402	M2	
⚠ D518	2058100105	1N 5402	M2	
⚠ D519	2058100105	1N 5402	M2	
⚠ D520	5528106100	1N 4002	N2	
⚠ D521	5528106100	1N 4002	N2	
⚠ D522	5528106100	1N 4002	N2	
⚠ D523	5528106100	1N 4002	N2	
• Fueses				
F503	5508212631	3A NB 31.8mm	M1	
F504	5508212631	3A NB 31.8mm	M1	
F505	5508212031	1A NB 31.8mm	N1	
F506	5508212031	1A NB 31.8mm	N1	

BIAS BOARD 4002017960

Ref. No.	Parts No.	Description	Position	Remark
• Transistors				
Q507 L/R	2008610102	2SD 1302S	M1/M2	
Q508 L/R	2008610102	2SD 1302S	M1/M2	
Q509 L/R	2008610102	2SD 1302S	M1/M2	

BIAS 2 BOARD 4002017980

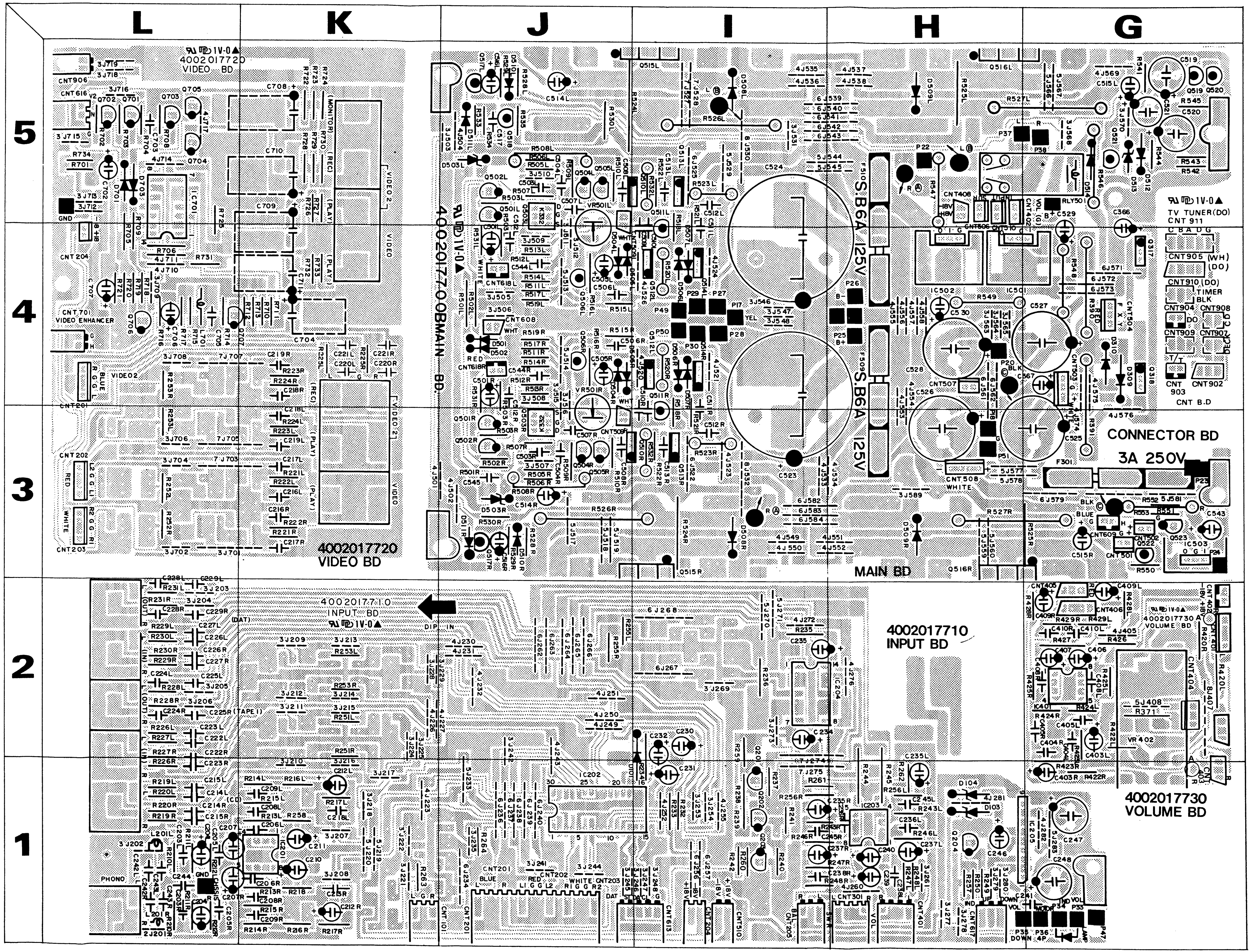
Ref. No.	Parts No.	Description	Position	Remark
• Transistor				
Q312	2008609101	MPSA 06	O1	

SELECTOR SW BOARD 4002017840

Ref. No.	Parts No.	Description	Position	Remark
• Capacitors				
C202 L	3509471130	Ceramic 470pF 50V	F1	
C202 R	3509471130	Ceramic 470pF 50V	F2	
• Resistors				
R601	3069104970	Carbon Film 100K	F3	
R602	3069104970	Carbon Film 100K	F3	
R603	3069102970	Carbon Film 1K	F2	
R604	3069102970	Carbon Film 1K	F2	
• Miscellaneous Parts				
⚠ F507	5508213133	6A/125V SB 31.8mm	Rear Panel	
⚠ F507	5508302935	TL 4A 250V, 20mm	C.D.E.F	
⚠ F508	5508111230	0.25A 250V SB 31.8mm	Rear Panel	
⚠ F507	5508212931	4A 250V, NB 31.8mm	B	
⚠ F505	5508302235	TL 1A 250V, 20mm	C.D.E.F	
⚠ F506	5508302235	TL 1A 250V, 20mm	C.D.E.F	
⚠ F501	5508303235	TL 6.3A 250V, 20mm	C.D.E.F	
⚠ F502	5508303235	TL 6.3A 250V, 20mm	C.D.E.F	
⚠ F801	5508301035	TL 0.16A 250V, 20mm	C.D.E.F	
⚠ F802	5508110931	0.15A 250V SB 31.8mm	B	
•	2828046801	Stand-by Transformer	A, B	
•	2828044901	Stand-by Transformer	C, D, F	
•	2828047001	Stand-by Transformer	E	
•	2828059101	Power Transformer	A	
•	2828059201	Power Transformer	B	
•	2828059301	Power Transformer	C, D, F	
•	2828059401	Power Transformer	E	

Top & Bottom View of P.C Boards

MAIN BOARD/INPUT BOARD/VIDEO BOARD/VOLUME BOARD/CONNETOR BD – TOP VIEW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VIDEO BD
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TV TUNER(DO)
CNT 911
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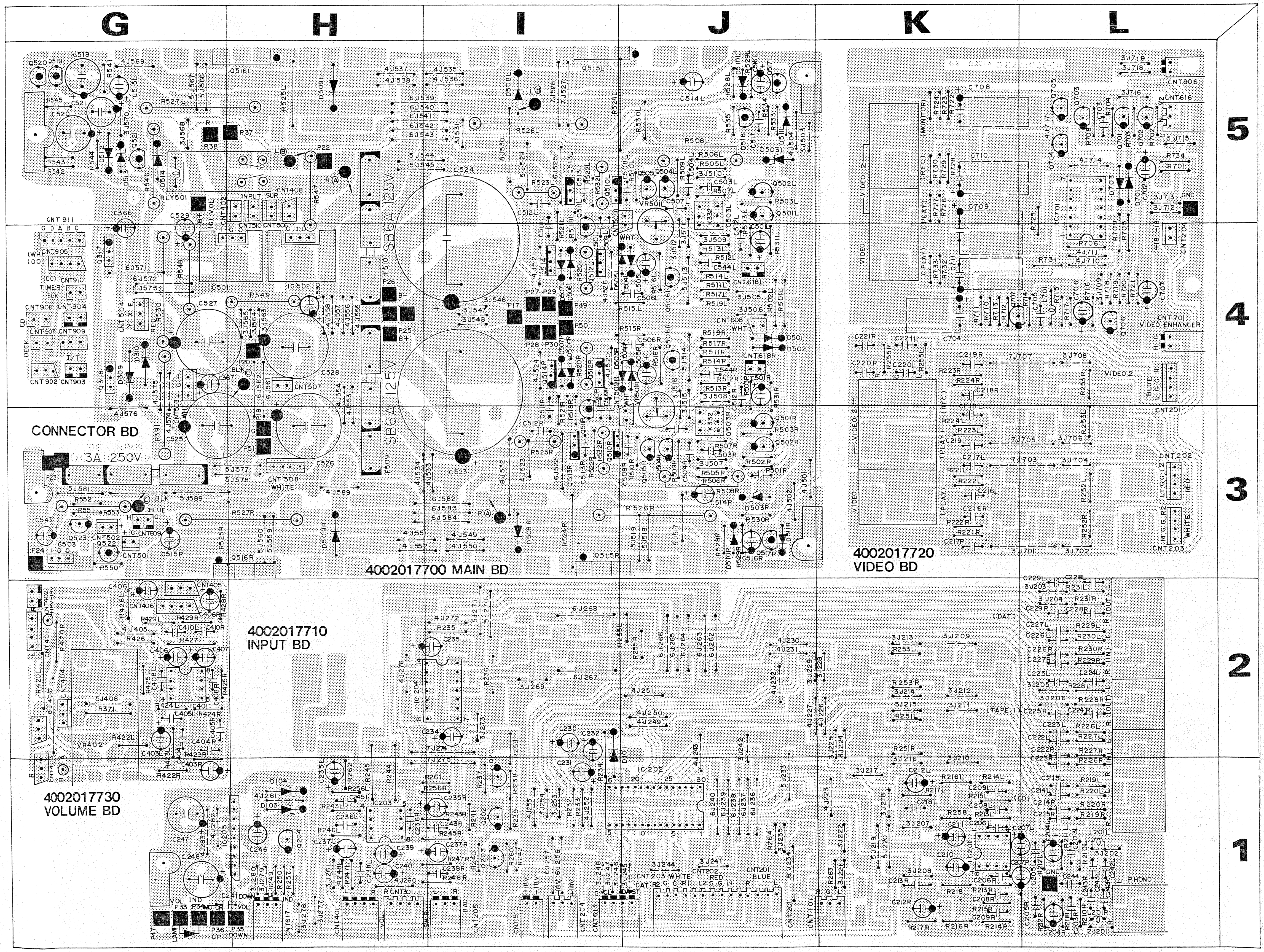
INPUT BD
DIP IN
4002017730
VOLUME BD
VIDEO ENHANCER
PHONO

– BOTTOM VIEW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INPUT BD
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VOLUME BD
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SBG 125V
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CNT205
CNT101
CNT701
CNT806
CNT616
CNT202
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CNT204
VIDEO ENHANCER
VIDEO 2
VIDEO
MONITOR
REC
PLAY
PHONO
TAPE
DAT
CD
DECK
TIMER
T/T
WHITE
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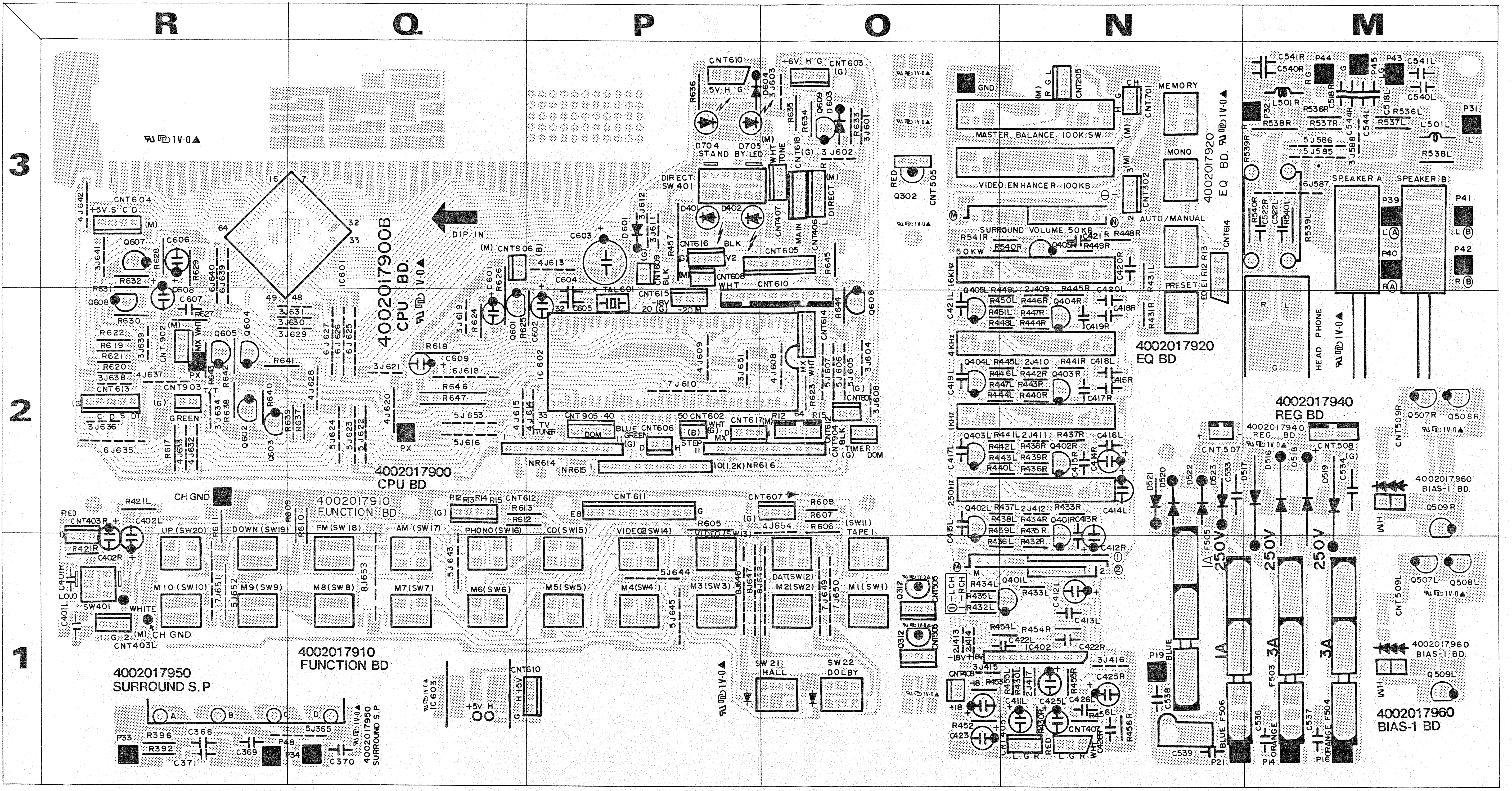
RLY501
VR501
VR402
GND

CPU BOARD/FUNCTION BOARD/E.Q BOARD/REG BOARD/BIAS-1 BOARD -TOP VIEW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SURROUND S.P
4002017960
BIAS-1 BD
DIP IN
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IC601
IC602
IC603
IC402
X TAL601
DIRECT SW401
STAND BY LED
D704
D705
5V H G
+6V H G
MASTER BALANCE 100K SW
VIDEO ENHANCER 100KB
SURROUND VOLUME 50KB
MEMORY
MONO
AUTO/MANUAL
PRESET
SPEAKER A
SPEAKER B
HEAD PHONE
GREEN
WHITE
BLUE
ORANGE
RED
CH GND
GND
UP (SW20)
DOWN (SW19)
FM (SW18)
AM (SW17)
PHONO (SW16)
CD (SW15)
VIDEO (SW14)
VIDEO (SW13)
TAPE
M10 (SW10)
M9 (SW9)
M8 (SW8)
M7 (SW7)
M6 (SW6)
M5 (SW5)
M4 (SW4)
M3 (SW3)
M2 (SW2)
M1 (SW1)
SW21 HALL
SW22 DOLBY
LOUD
SW401
16KHz
4KHz
1KHz
250Hz
F503 3A
F504
F505 1A
F506
250V
1A
3A
P31
P32
P33
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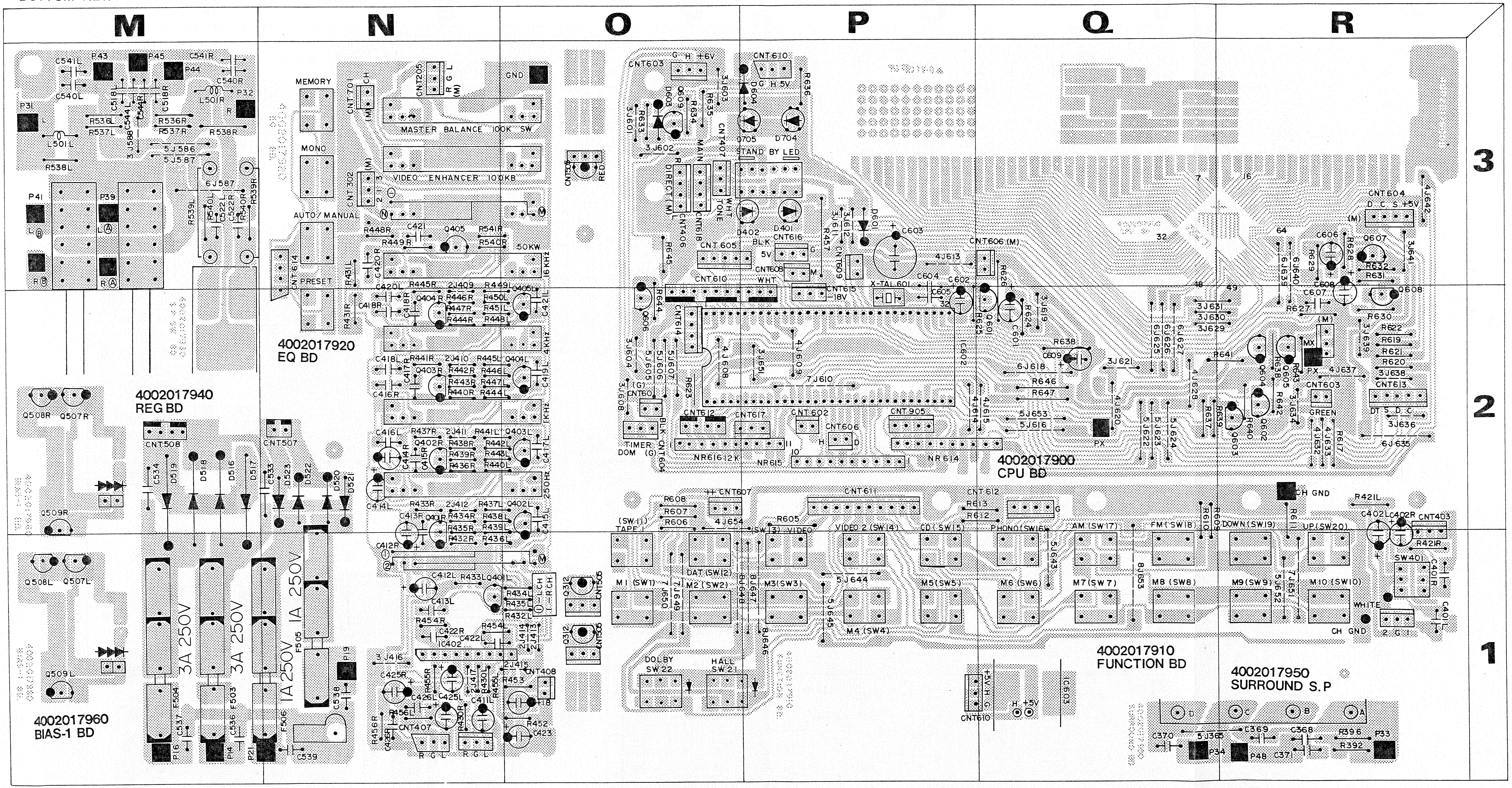
P21
P14
1V-0

- BOTTOM VIEW



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CPU BD
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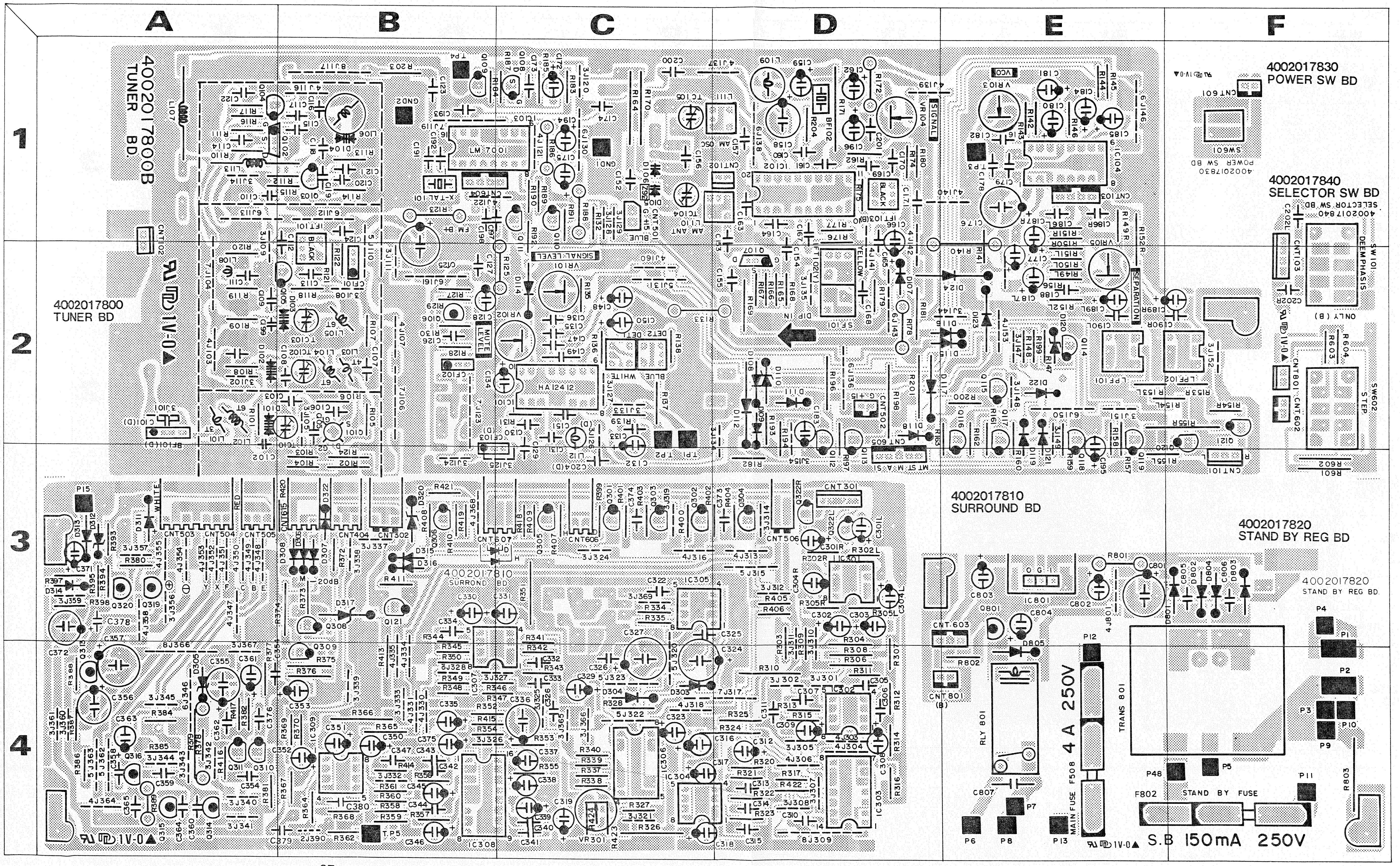
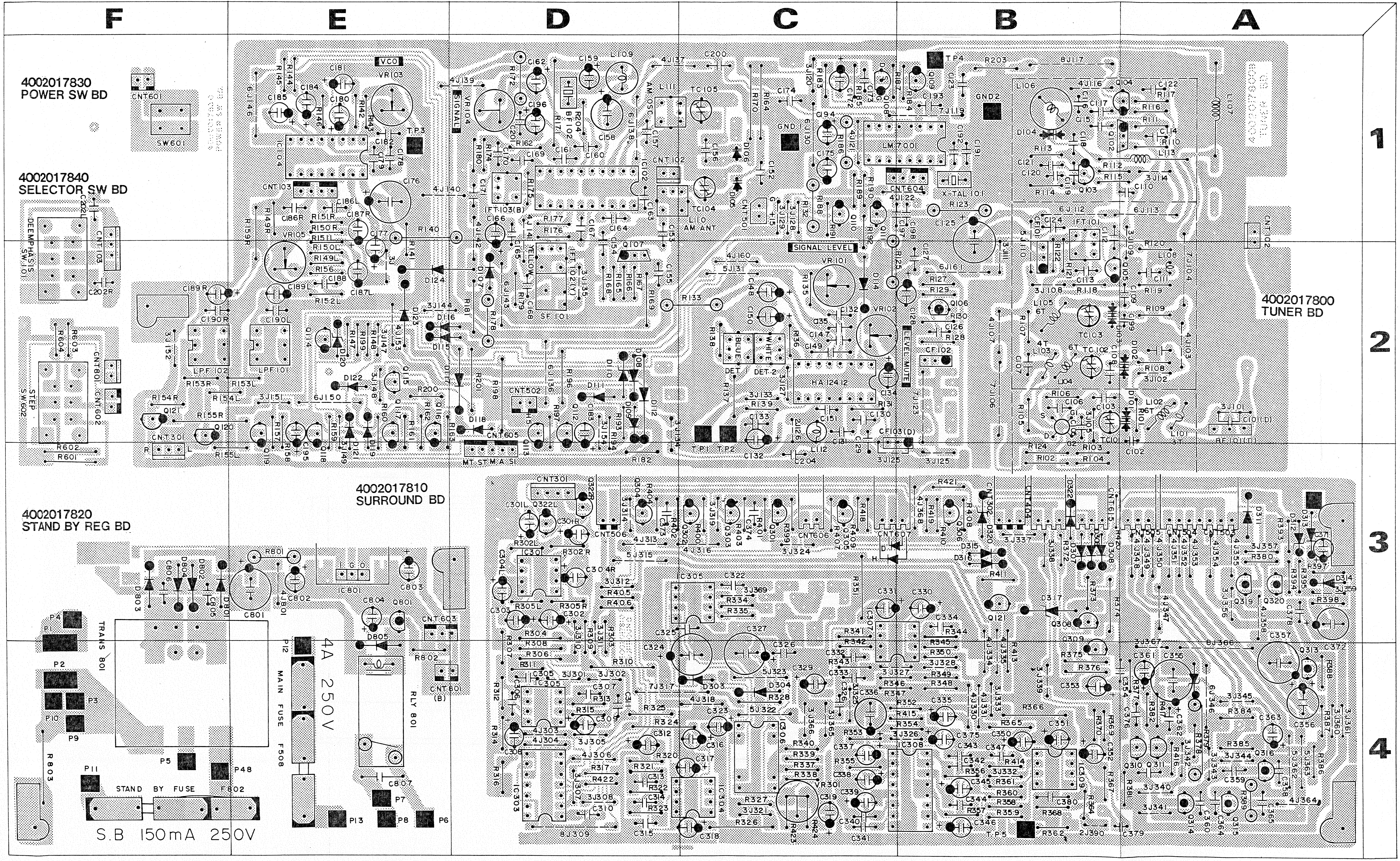
FUNCTION BD
4002017950
SURROUND S.P
MEMORY
MONO
AUTO/MANUAL
PRESET
MASTER BALANCE 100K SW
VIDEO ENHANCER 100KB
GND
STAND BY LED
X-TAL 601
3A 250V
3A 250V
1A 250V
1A 250V
TAPE
DAT (SW12)
VIDEO 2 (SW14)
CD (SW15)
PHONO (SW16)
AM (SW17)
FM (SW18)
DOWN (SW19)
UP (SW20)
M1 (SW1)
M2 (SW2)
M3 (SW3)
M4 (SW4)
M5 (SW5)
M6 (SW6)
M7 (SW7)
M8 (SW8)
M9 (SW9)
M10 (SW10)
DOLBY SW22
HALL SW21
CH GND
WHITE
TIMER
DOM
GREEN

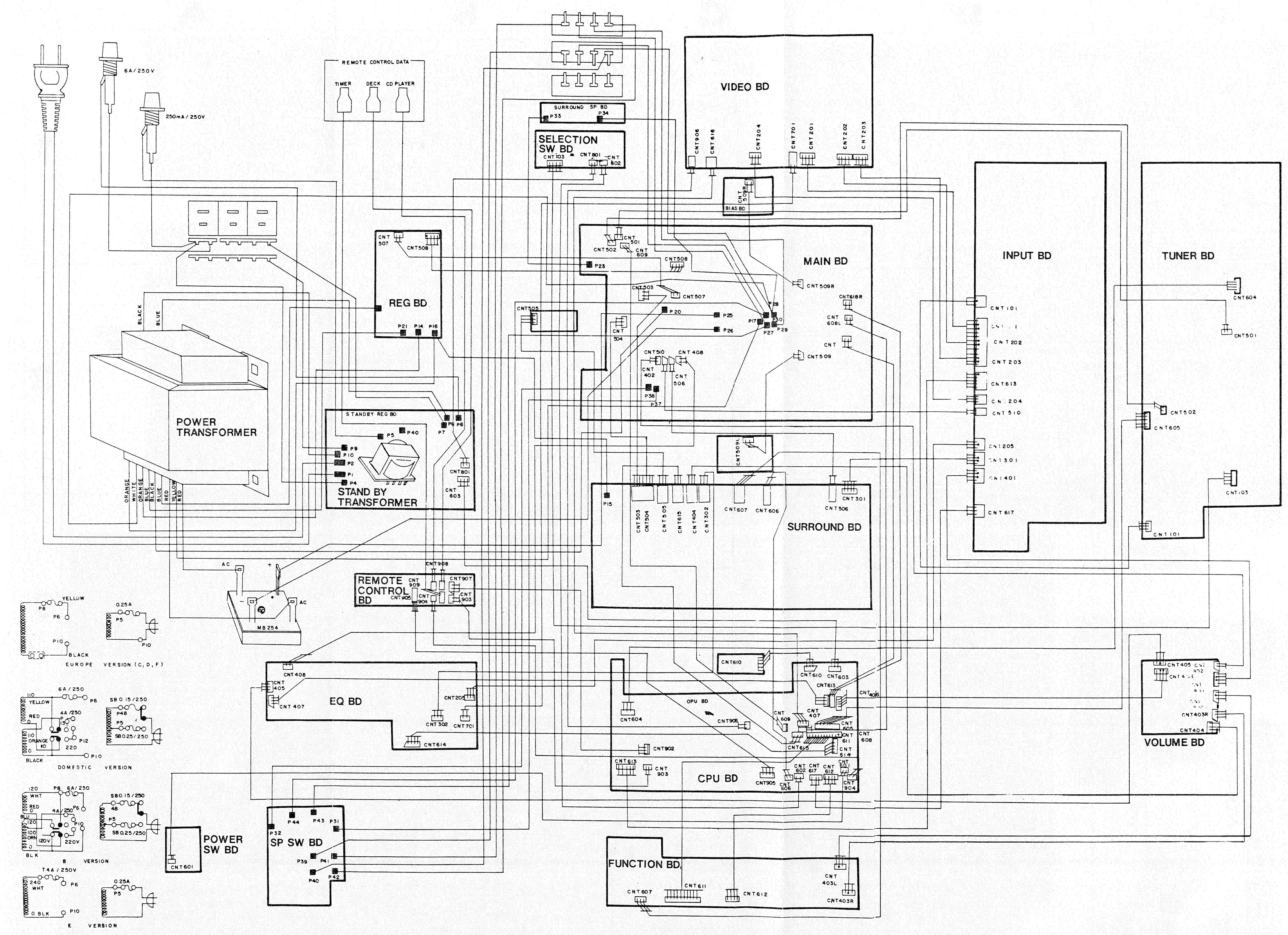
TUNER BOARD/SURROUND BOARD/STANDARD BOARD/POWER SW BD -TOP VIEW


A
B
C
D
E
F
1
2
3
4
4002017800B TUNER BD
4002017800 TUNER BD
4002017830 POWER SW BD
4002017840 SELECTOR SW BD
4002017810 SURROUND BD
4002017820 STAND BY REG BD
SIGNAL-LEVEL
SEPARATION
MUTE LEVEL
BLACK
YELLOW
BLUE
WHITE
RED
DEEMPHASIS
STEP
RLY 801
TRANS 801
MAIN FUSE F508
4 A 250V
F802
STAND BY FUSE
S.B 150mA 250V
1V-0▲

- BOTTOM VIEW

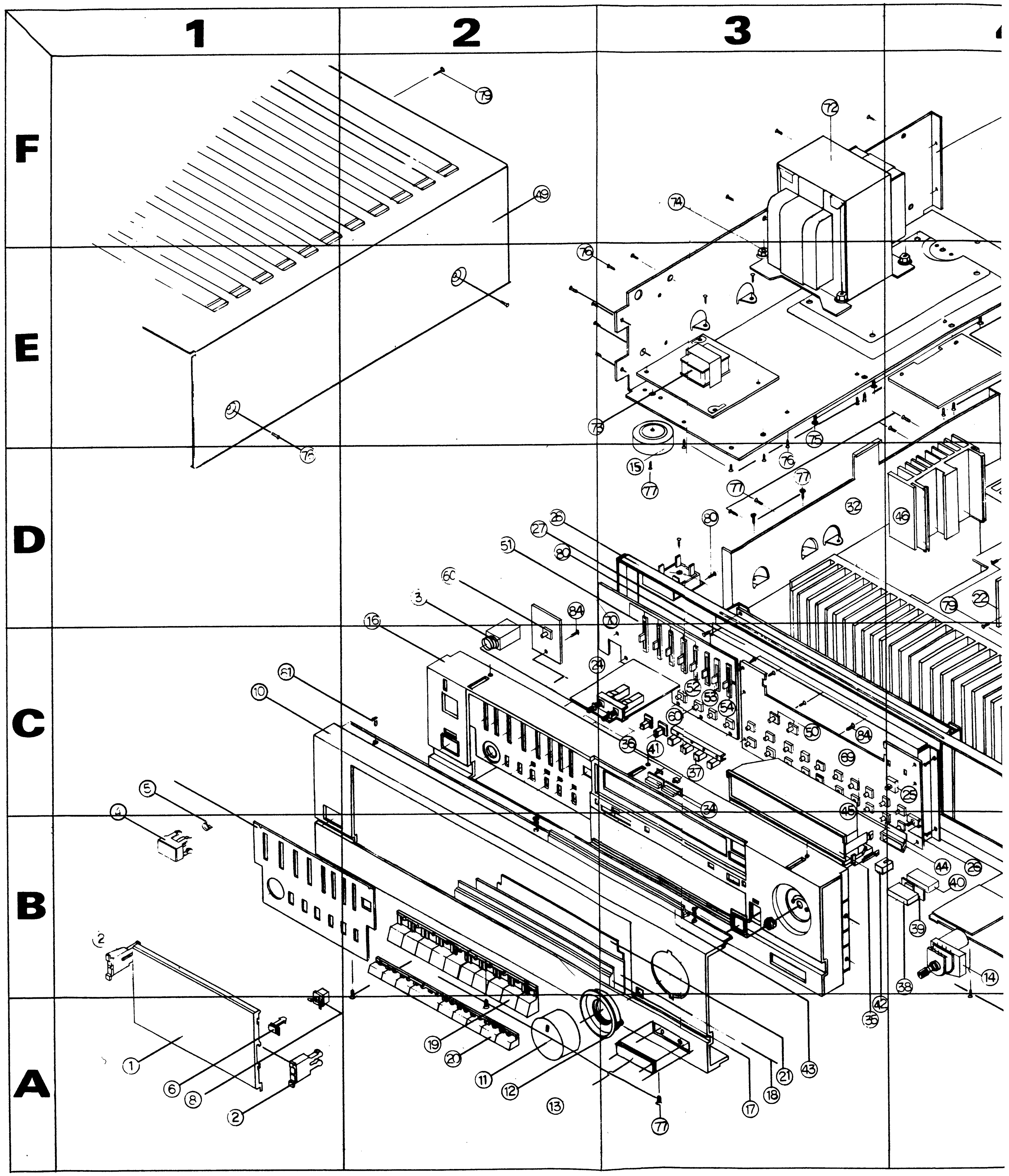

F
E
D
C
B
A
1
2
3
4
4002017830
POWER SW BD
4002017840
SELECTOR SW BD
4002017800
TUNER BD
4002017810
SURROUND BD
4002017820
STAND BY REG BD
SW601
CNT601
DEEMPHASIS SW101
STEP SW602
VCO
SIGNAL
SIGNAL LEVEL
LEVEL MUTE
AM OSC
AM ANT
LM7001
X-TAL 101
HA12412
BLUE
WHITE
DET
DET 2
YELLOW
LPF 102
LPF 101
MT ST M A SI
IFT 101
IFT 103(B)
SF 101
TP1
TP2
TP3
TP4
TP5
GND
GND2
TRANS 801
4A 250V
MAIN FUSE F508
RLY 801
STAND BY FUSE F802
S.B 150mA 250V
IC801
IC303
IC304
IC305
IC306
IC102
IC104
VR101
VR102
VR103
VR104
VR105
VR301
P4
P2
P3
P10
P9
P5
P11
P48
P12
P13
P8
P6
P7
R803

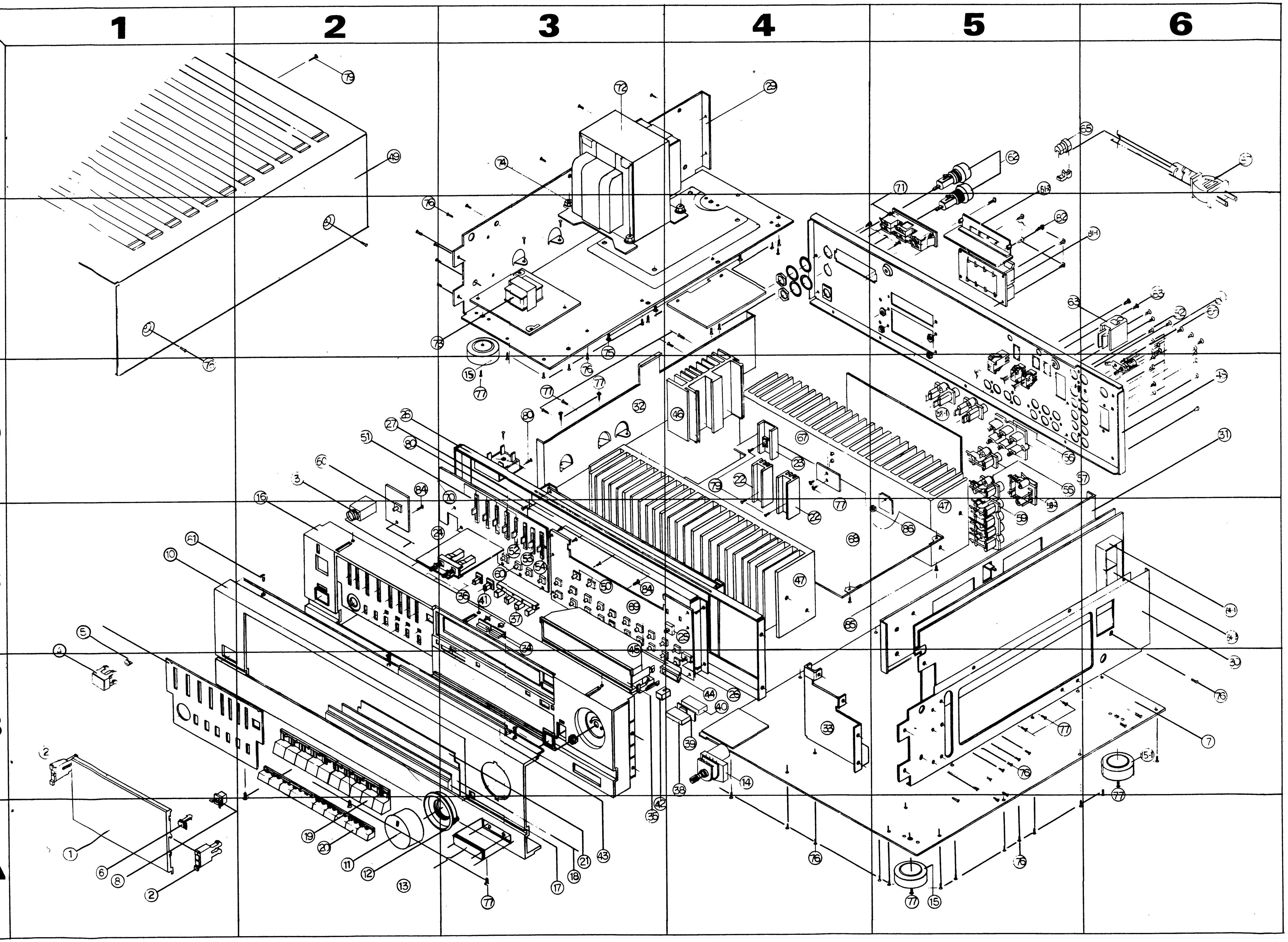
Point to Point Wiring Diagram


6A/250V
250mA/250V
REMOTE CONTROL DATA
TIMER
DECK
CD PLAYER
SURROUND SP BD
P33
P34
SELECTION SW BD
CNT103
CNT801
CNT802
VIDEO BD
CNT906
CNT618
CNT204
CNT701
CNT201
CNT202
CNT203
CNT509R
BIAS BD
CNT507
CNT508
REG BD
P21
P14
P16
MAIN BD
CNT502
CNT501
CNT609
CNT508
P23
CNT509R
CNT503
CNT507
CNT618R
P20
P25
P26
P17
P27
P28
P29
P30
CNT608L
CNT504
CNT510
CNT408
CNT402
CNT506
CNT509
P36
P37
CNT505
INPUT BD
CNT101
CNT202
CNT203
CNT613
CNT204
CNT510
CNT205
CNT301
CNT401
CNT617
TUNER BD
CNT604
CNT501
CNT502
CNT605
CNT103
CNT101
BLACK
BLUE
POWER TRANSFORMER
ORANGE
WHITE
ORANGE
BLUE
BLACK
BLUE
RED
YELLOW
RED
STANDBY REG BD
P5
P40
P6
P8
P7
P9
P10
P2
P1
P4
CNT801
CNT603
STAND BY TRANSFORMER
CNT509L
P15
CNT503
CNT504
CNT505
CNT615
CNT404
CNT302
CNT607
CNT606
CNT301
CNT506
SURROUND BD
AC
MB254
CNT908
REMOTE CONTROL BD
CNT909
CNT907
CNT906
CNT904
CNT903
YELLOW
P8
P6
0.25A
P5
P10
BLACK
EUROPE VERSION (C, D, F)
110
6A/250
YELLOW
RED
4A/250
SB0.15/250
P6
P48
P5
SB0.25/250
P12
220
ORANGE
BLACK
P10
DOMESTIC VERSION
120
WHT
RED
P8
6A/250
4A/250
SB0.15/250
P6
P48
P5
SB0.25/250
220V
120V
BLK
B VERSION
T4A/250V
240
WHT
P6
0.25A
P5
O BLK
P10
E VERSION
CNT408
CNT405
CNT407
EQ BD
CNT205
CNT302
CNT701
CNT614
CNT610
CNT610
CNT603
CNT613
CNT405
OPU BD
CNT604
CNT905
CNT609
CNT407
CNT605
CNT611
CNT608
CNT615
CNT614
CNT902
CNT613
CNT903
CPU BD
CNT905
CNT602
CNT617
CNT612
CNT606
CNT904
CNT405
CNT402
CNT406
CNT401
CNT403R
CNT404
VOLUME BD
POWER SW BD
CNT601
P44
P43
P31
P32
SP SW BD
P39
P41
P40
P42
FUNCTION BD
CNT611
CNT607
CNT612
CNT403L
CNT403R

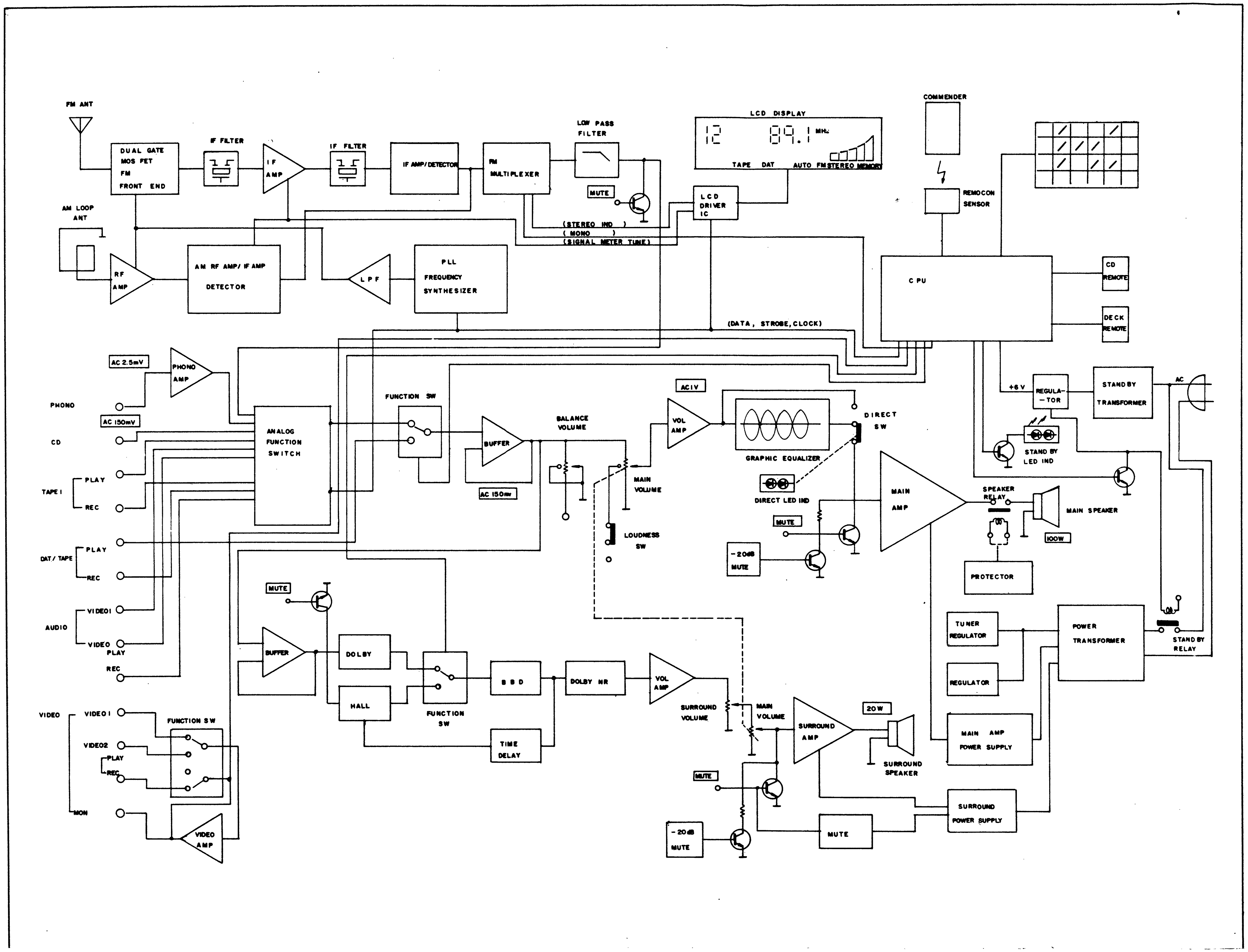
Parts List & Exploded View of Cabinet & Chassis

No.	Parts No.	Description	Position	Q'ty	Remark
1	048603000513	Door-Front	A1	1	
2	6305004110	Door-Hinge	A1, B1	2	
3	4438000810	Jack-Phone	D2	1	
4	048545048211	Button-Push, Power	C1	1	
5	6555004380	Spring-Power	C1	1	
6	6305004610	Shaft-Locker	A1	1	
7	6021401110	Cover-Bottom	B6	1	
8	7328000110	Door-Locker	A1		
9	048623005111	Plate-Decoration	C1	1	
10	8602015712	Panel-Front, Black	C1	1	
11	048643003711	Knob-Rotary, Volume	A2	1	
12	8523009210	Ring-Decoration	A2	1	
13	048535019011	Badge	A2	1	
14	3208053410	Motor-Volume (50KAX3)	B4	1	
15	046035101511	Base-Foot, A	A5, D3	2	A, B, C, D, E, F
15-1	6035101510	Base-Foot, B	B6	2	A, B
	046035101511	Base-Foot, A	B6	2	C, D, E, F
16	04821005411	Body-Front	D2	1	
17	8553008410	Window-L.C.D	A3	1	
18	048535019511	Display-Inlay	A3	1	
19	048542000211	Button-Tact, A	A2	1	
20	048542000311	Button-Tact, B	A2	1	
21	8535022810	Filter-L.C.D	A3	1	
22	7505201940	Heatsink, Regulator TR	C4, D4	2	
23	7505202410	Heatsink, Sub	D4	1	
24	4628052410	Push-Switch, 2Key	C2	1	
25	4628050510	Push-Switch, 1Key	C4	1	
26	4628042010	Push-Switch, 1Key	B4	1	
27	6162100910	Cover-Shield	D2	1	
28	6122211810	Chassis-Front, Black	D2	1	
29	6122616810	Frame-Side, Left	F4	1	
30	6122616910	Frame-Side, Right	B6	1	
31	6122617110	Frame-Support, Right	D6	1	
32	6122617010	Frame-Support, Left	D3	1	
33	6503012610	Bracket PCB, C	B4	1	
34	8543016710	Button, Push	C3	2	
35	6042001610	Holder-L.C.D	A3	1	
36	6055003310	Insert-L.E.D	C3	2	
37	8543016810	Button-Tact, 4Key	C3	1	
38	048543017111	Button-Push, Direct	B4	1	
39	8535022910	Filter-L.E.D	B4	1	
40	6165129210	Fence, L.E.D	B4	1	
41	8545052110	Button, Push	C3	2	
42	8543017010	Button-Push, Loud	B4	1	
43	048583002411	Cover-Front	A3	1	
44	6045007010	Holder-L.E.D	B4	1	
45	8535022310	Filter-Sensor	C3	1	
45	8535022310	Filter-Sensor	C3	1	
46	7505000510	Heatsink	D4	1	
47	7502002210	Heatsink-Power	C4, C5	2	
48	046102024221	Chassis-Back, Black	D6	1	A
	046102024231	Chassis-Back, Black	D6	1	B
	046102024241	Chassis-Back, Black	D6	1	C
	046102024251	Chassis-Back, Black	D6	1	D
	046102024261	Chassis-Back, Black	D6	1	E
	046102024271	Chassis-Back, Black	D6	1	F
49	6122017410	Cover-Top, Black	F2	1	
50	4658003110	Switch Tact, LED	C3	2	
51	3238408310	Switch EQ, 50KW X2	D2	5	
52	3238408710	Switch Slide EQ, 100KB	C3	1	
53	3238408810	Seitch Slide EQ, 100KW	C3	1	
54	3238408910	Switch Slide EQ, 100KB	C3	1	
55	4438102110	Jack-RCA, 2P	D5	2	
56	4438102010	Jack-RCA, 4P	D5	1	
57	4438102210	Jack-RCA, 2P	D5	1	
58-1	4438102310	Jack-RCA, 2P	D5	2	
58-2	4408001310	Jack-RCA, 2P	C5	1	
59	4438101810	Jack-RCA, 4P	C5	2	
60	4658002910	Switch, Tact	C3,D2	25	
61-1	4408100320	Terminal-Speaker, 8P	E6	1	
61-2	4408000910	Terminal-Push, S.P, 4P	E5	1	
62	4458000210	Holder-Fuse	F5	2	A
	4458000610	Holder-Fuse	F5	2	B
	4458000110	Holder-Fuse	F5	2	C, D, E, F
63	6518000210	Holder-Ant, Loof	E5	1	
64-1	6163105610	Cover-Shield, A	C6	1	
64-2	6165128510	Cover-Shield, B	C6	1	
65	6518000710	Stopper-Cord, Black	F6	1	A, B
	6518000111	Stopper-Cord, Black	F6	1	C, D, F
	6518000210	Stopper-Cord, Black	F6	1	E
66	4408103710	Ground-Terminal	E6	1	
67	7015003110	Bushing	D4	4	
68	4002017700	Main P.C.B	C4	1	
69	4002017910	Function P.C.B	C3	1	
70	4002017920	EQ-P.C.B	D3	1	
71	4448102110	Outlet-AC, Black	F5	1	A, B
	4448100510	Outlet-AC, Black	F5	1	C, D, F
72	2828059101	Power Transformer	F3	1	A
73	2828046801	Stand-by Transformer	E3	1	A
74	8209540011	Nut Flange M4ZNY	F3	4	
75	8069140081	Screw WPM 4X8 ZNY	E3	4	
76	8109230061	Screw #2 BTC 3X6 ZNY	D3, E2/3, A4/5	30	
77	8109230081	Screw #2 BTC 3X8 ZNY	A3/5, B2/6, D3	18	
78	8159440083	Screw WASM 4X8 ZNB	D1	4	
79	8109230063	Screw #2 PTC 3X6 ZNB	F2, C3/4, D4	2	
80	8159230061	Screw #2 WPTC 3X6 ZNY	D3/6, E6	15	
81	8129230081	Screw #1 FTC 3X8 ZNY	C1	3	
82	8119230083	Screw #2 PTC 3X8 ZNB	E6, D6	10	
83	8119230063	Screw #2 PTC 3X6 ZNB	E6, D6	8	
84	8159230081	Screw #2 WPTC 3X8 ZNY	C3/4, B4	13	
85	8499130121	Screw HEX M3X12 ZNY	C4/5, D4	12	
86	8099130161	Screw HEX 3X16 ZNY	C4/5, D3/4	4	
87	4308001410	Cord-Power, AC	F6	1	A, B
	4308000430	Cord-Power, AC	F6	1	D, C
	4308000610	Cord-Power, AC	F6	1	E



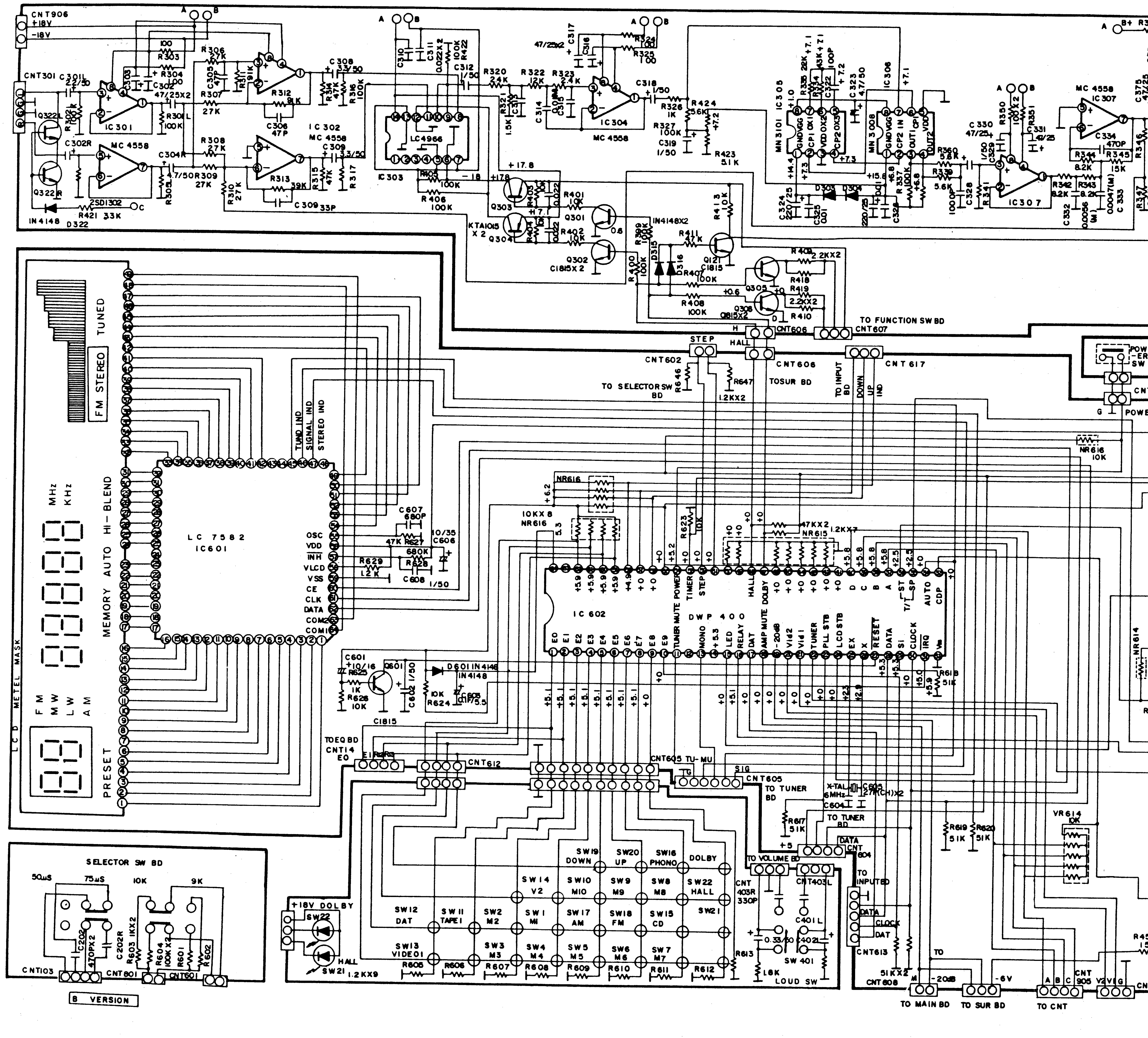

15-1

Block Diagram

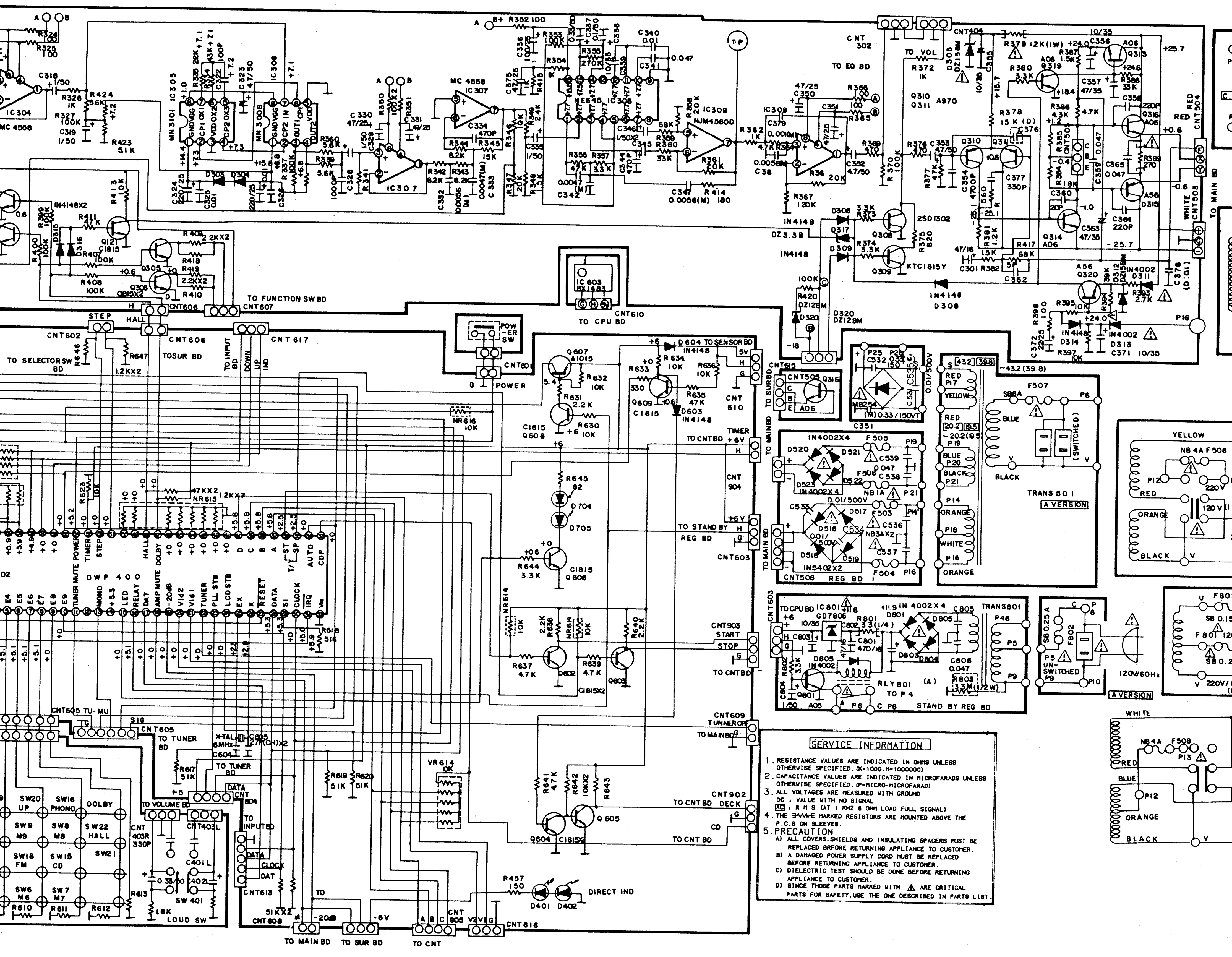

FM ANT
DUAL GATE MOS FET FM FRONT END
IF FILTER
IF AMP
IF FILTER
IF AMP/DETECTOR
FM MULTIPLEXER
LOW PASS FILTER
MUTE
LCD DISPLAY
12
89.1 MHz
TAPE DAT AUTO FM STEREO MEMORY
LCD DRIVER IC
(STEREO IND)
(MONO)
(SIGNAL METER TUNE)
AM LOOP ANT
RF AMP
AM RF AMP/ IF AMP DETECTOR
LPF
PLL FREQUENCY SYNTHESIZER
(DATA, STROBE, CLOCK)
COMMENDER
REMOCON SENSOR
CPU
CD REMOTE
DECK REMOTE
+6V
REGULA-TOR
STAND BY TRANSFORMER
AC
STAND BY LED IND
AC 2.5mV
PHONO AMP
PHONO
AC 150mV
CD
TAPE I
PLAY
REC
DAT/ TAPE
PLAY
REC
AUDIO
VIDEO1
VIDEO
PLAY
REC
ANALOG FUNCTION SWITCH
FUNCTION SW
BUFFER
AC 150mV
BALANCE VOLUME
MAIN VOLUME
LOUDNESS SW
AC1V
VOL AMP
GRAPHIC EQUALIZER
DIRECT SW
DIRECT LED IND
MUTE
-20dB MUTE
MAIN AMP
SPEAKER RELAY
MAIN SPEAKER
100W
PROTECTOR
TUNER REGULATOR
REGULATOR
POWER TRANSFORMER
STAND BY RELAY
MAIN AMP POWER SUPPLY
SURROUND POWER SUPPLY
MUTE
BUFFER
DOLBY
HALL
FUNCTION SW
BBD
DOLBY NR
TIME DELAY
VOL AMP
SURROUND VOLUME
MAIN VOLUME
SURROUND AMP
20W
SURROUND SPEAKER
MUTE
-20dB MUTE
MUTE
VIDEO
VIDEO1
VIDEO2
PLAY
REC
MON
FUNCTION SW
VIDEO AMP

Schematic Diagra

RV-1340R I


A
B
C
D
1
2
3
4
5
CNT906
+18V
-18V
CNT301
Q322L
Q322R
IN4148 D322
2SD1302
R421 33K
IC301
MC 4558
IC 302
MC 4558
IC 303
LC4966
IC304
MC 4558
MN 3101 IC305
MN 3008 IC306
MC 4558 IC307
KTA1015 X2
Q303
Q304
Q301
Q302
C1815X2
Q121 C1815
Q305
Q306 C1815X2
IN4148X2
D315
D316
TO FUNCTION SW BD
CNT606
CNT607
STEP
HALL
CNT602
TO SELECTOR SW BD
TOSUR BD
CNT 617
TO INPUT BD
DOWN
UP
IND
TUNED
FM STEREO
MHz
KHz
MEMORY AUTO HI-BLEND
LCD METEL MASK
FM
MW
LW
AM
PRESET
TUND IND
SIGNAL IND
STEREO IND
LC 7582
IC601
OSC
VDD
INH
VLCD
VSS
CE
CLK
DATA
COM2
COM1
C607 680P
C606 10/35
C608 1/50
C601 +10/16
Q601
C1815
D601 IN4148
NR616
10KX8
NR615 47KX2
1.2KX7
IC 602
DWP 400
TUNER MUTE
POWER
TIMER
STEP
MONO
LED
RELAY
DAT
AMP MUTE
DOLBY
-20dB
Vid2
Vid1
TUNER
PLL STB
LCD STB
EX
X
RESET
DATA
SI
CLOCK
IRQ
T/SP
ST
AUTO
CDP
TOEQ BD
CNT14
CNT612
CNT605 TU-MU
SIG
CNT605
TO TUNER BD
X-TAL 6MHz
TO TUNER BD
DATA CNT 604
TO VOLUME BD
CNT 403R 330P
CNT403L
C401L
SW 401
LOUD SW
TO INPUT BD
DATA
CLOCK
DAT
CNT613
CNT608
TO MAIN BD
TO SUR BD
-20dB
-6V
TO CNT
CNT 905
VR614 10K
NR614
SELECTOR SW BD
50uS
75uS
10K
9K
C202L 470PX2
C202R
R603 1KX2
R604 100KX2
R601
R602
CNT103
CNT601
B VERSION
+18V DOLBY
SW22
SW21
HALL 1.2KX9
SW19 DOWN
SW20 UP
SW16 PHONO
DOLBY
SW14 V2
SW10 MIO
SW9 M9
SW8 M8
SW22 HALL
SW12 DAT
SW11 TAPE1
SW2 M2
SW1 M1
SW17 AM
SW18 FM
SW15 CD
SW21
SW13 VIDEO1
SW3 M3
SW4 M4
SW5 M5
SW6 M6
SW7 M7
R605
R606
R607
R608
R609
R610
R611
R612
R613 1.6K
POW
SW
POWE
A
B
C
D

Schematic Diagram
RV-1340R I

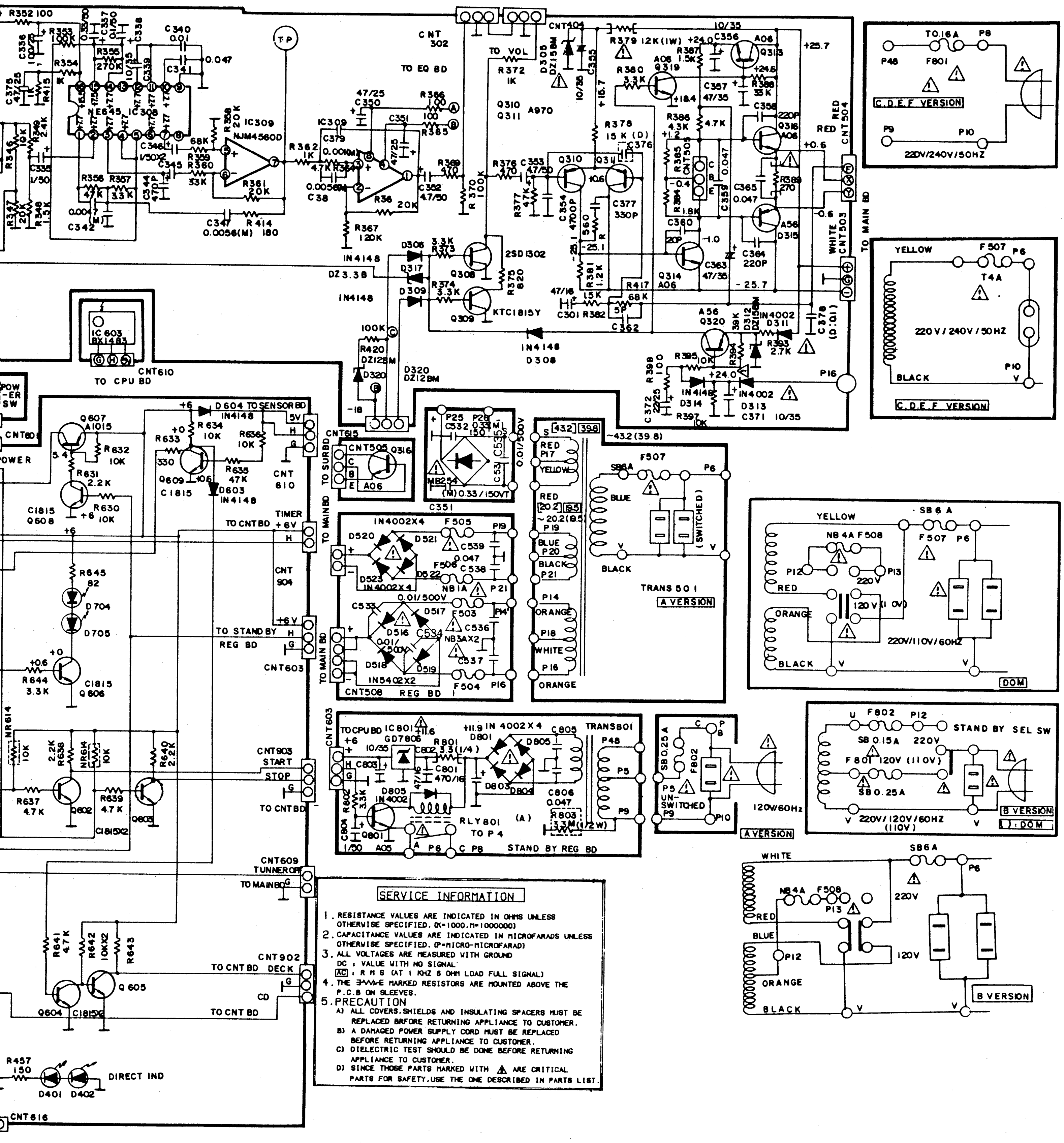

IC304
MC 4558
MN 3101 IC305
MN 3008 IC306
MC 4558 IC307
NE645 IC308
NJM4560D IC309
IC 603 BX1483
TP
CNT 302 TO EQ BD
TO VOL
CNT404
CNT 504
CNT 503
TO MAIN BD
TO FUNCTION SW BD
CNT606
CNT607
CNT610 TO CPU BD
CNT602
TO SELECTOR SW BD
STEP
HALL
TOSUR BD
CNT 617
TO INPUT BD
DOWN
UP
IND
POW-ER SW
CNT601
POWER
D604 TO SENSOR BD
TO SURBD
CNT615
CNT505
CNT 610
TO CNT BD
TIMER
CNT 904
TO STAND BY REG BD
CNT603
TO MAIN BD
DWP 400
TUNER MUTE
POWER
TIMER
STEP
MONO
LED
RELAY
DAT
AMP MUTE
DOLBY
TUNER
PLL STB
LCD STB
RESET
DATA
CLOCK
CDP
AUTO
CNT903
START
STOP
TO CNTBD
CNT609
TUNNER OFF
TO MAINBD
CNT902
DECK
CD
TO CNT BD
CNT605 TU-MU
SIG
TO TUNER BD
X-TAL 6MHz
TO VOLUME BD
CNT403L
CNT403R
TO INPUTBD
CNT613
CNT608
TO MAIN BD
TO SUR BD
TO CNT
CNT 905
CNT616
VR614
DIRECT IND
D401
D402
SW20 UP
SW16 PHONO
DOLBY
SW9 M9
SW8 M8
SW22 HALL
SW18 FM
SW15 CD
SW21
SW6 M6
SW7 M7
SW 401
LOUD SW
CNT508 REG BD
TRANS 50 I
A VERSION
RED
YELLOW
BLUE
BLACK
ORANGE
WHITE
(SWITCHED)
TRANS801
RLY801
TO P 4
STAND BY REG BD
UN-SWITCHED
120V/60Hz
A VERSION
220V
120V

SERVICE INFORMATION

1. RESISTANCE VALUES ARE INDICATED IN OHMS UNLESS OTHERWISE SPECIFIED. (K=1000, M=1000000)
2. CAPACITANCE VALUES ARE INDICATED IN MICROFARADS UNLESS OTHERWISE SPECIFIED. (P=MICRO-MICROFARAD)
3. ALL VOLTAGES ARE MEASURED WITH GROUND
   DC : VALUE WITH NO SIGNAL
   AC : R M S (AT 1 KHZ 8 OHM LOAD FULL SIGNAL)
4. THE ∃WW∈ MARKED RESISTORS ARE MOUNTED ABOVE THE P.C.B ON SLEEVES.
5. PRECAUTION
   A) ALL COVERS. SHIELDS AND INSULATING SPACERS MUST BE REPLACED BRFORE RETURNING APPLIANCE TO CUSTOMER.
   B) A DAMAGED POWER SUPPLY CORD MUST BE REPLACED BEFORE RETURNING APPLIANCE TO CUSTOMER.
   C) DIELECTRIC TEST SHOULD BE DONE BEFORE RETURNING APPLIANCE TO CUSTOMER.
   D) SINCE THOSE PARTS MARKED WITH ⚠ ARE CRITICAL PARTS FOR SAFETY. USE THE ONE DESCRIBED IN PARTS LIST.

E F G

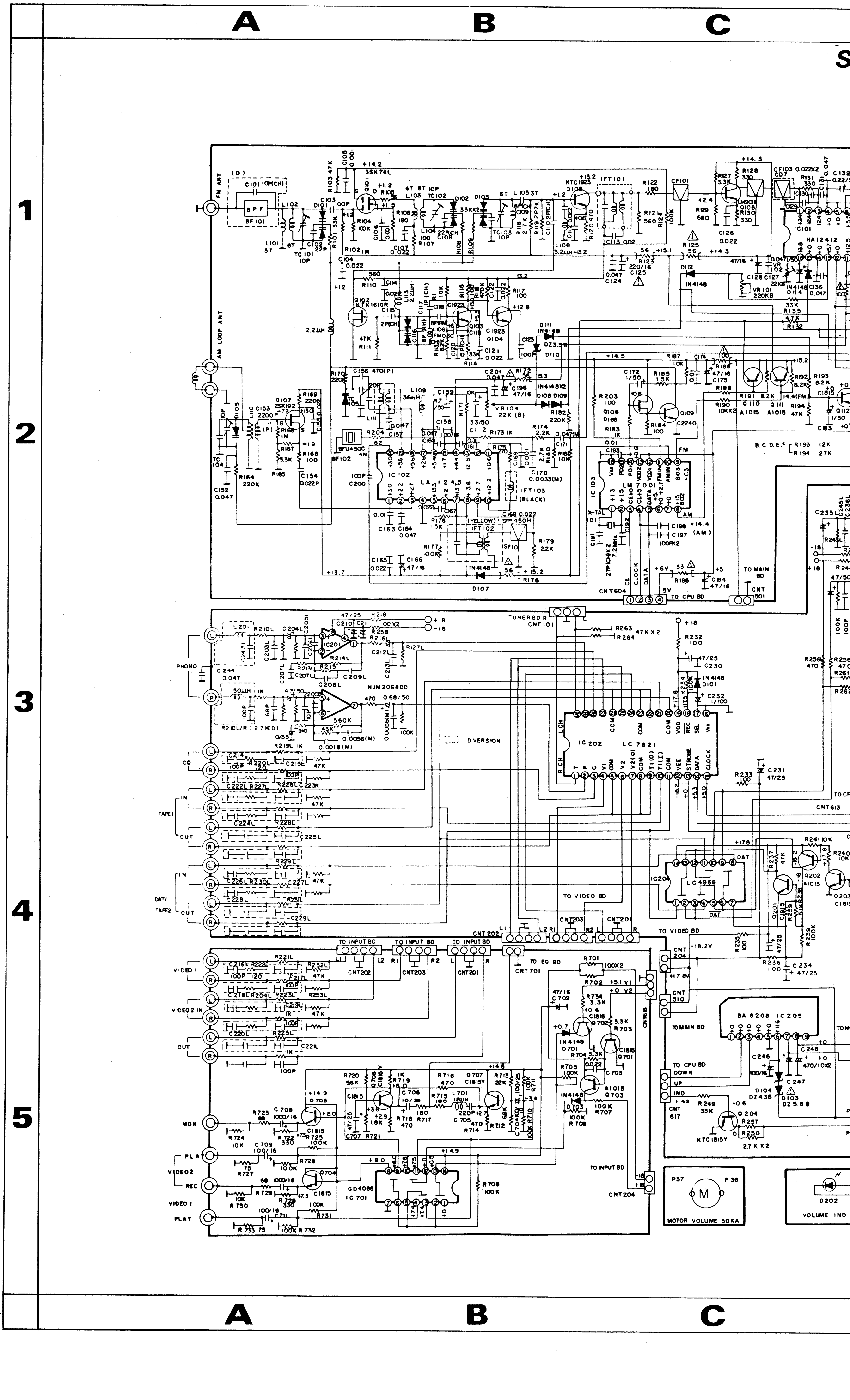
am



CNT 302
TO EQ BD
TO VOL
IC309 NJM4560D
T.P
Q310 Q311 A970
Q308 2SD1302
Q309 KTC1815Y
Q313 A06
Q315 A06
Q314 A06
Q320 A56
CNT504
CNT503
TO MAIN BD
RED
WHITE
IC 603 BX1483
CNT610 TO CPU BD
D604 TO SENSOR BD
CNT615
TO SURBD
CNT505
Q316 A06
TO MAIN BD
TIMER
TO CNT BD
CNT 904
TO STAND BY REG BD
CNT603
CNT508 REG BD
MB254
C351
TRANS 501
A VERSION
(SWITCHED)
IC801 GD7806
TO CPU BD
RLY801 TO P4
STAND BY REG BD
TRANS801
UN-SWITCHED
120V/60Hz
A VERSION
CNT903 START STOP
TO CNT BD
CNT609 TUNNER OR TO MAIN BD
CNT902 TO CNT BD DECK
TO CNT BD
DIRECT IND
CNT616
T0.16A F801
C.D.E.F VERSION
220V/240V/50HZ
YELLOW F507 T4A
220 V / 240 V / 50 HZ
BLACK
C.D.E.F VERSION
YELLOW SB6A
NB4A F508 F507 P6
220V 120V 110V
ORANGE BLACK
220V/110V/60HZ
DOM
F802 P12 STAND BY SEL SW
F801 120V (110V)
SB0.15A 220V
SB0.25A
220V/120V/60HZ (110V)
B VERSION
( ) : DOM
WHITE SB6A
NB4A F508
RED BLUE ORANGE BLACK
220V 120V
B VERSION
1
2
3
4
5
E F G

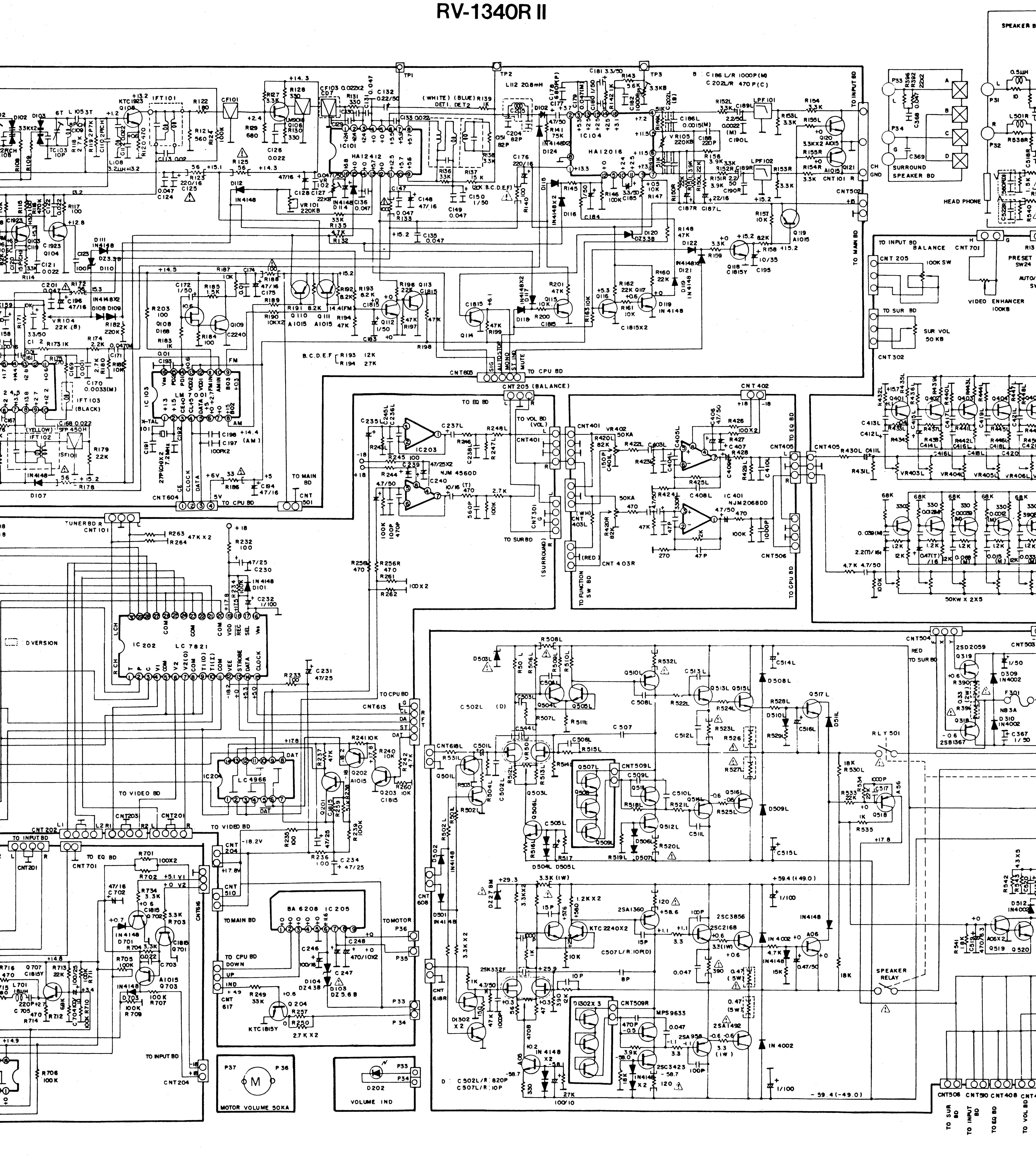
SERVICE INFORMATION

1. RESISTANCE VALUES ARE INDICATED IN OHMS UNLESS OTHERWISE SPECIFIED. (K=1000, M=1000000)
2. CAPACITANCE VALUES ARE INDICATED IN MICROFARADS UNLESS OTHERWISE SPECIFIED. (P=MICRO-MICROFARAD)
3. ALL VOLTAGES ARE MEASURED WITH GROUND
   DC : VALUE WITH NO SIGNAL
   AC : R M S (AT 1 KHZ 8 OHM LOAD FULL SIGNAL)
4. THE -WW- MARKED RESISTORS ARE MOUNTED ABOVE THE P.C.B ON SLEEVES.
5. PRECAUTION
   A) ALL COVERS, SHIELDS AND INSULATING SPACERS MUST BE REPLACED BRFORE RETURNING APPLIANCE TO CUSTOMER.
   B) A DAMAGED POWER SUPPLY CORD MUST BE REPLACED BEFORE RETURNING APPLIANCE TO CUSTOMER.
   C) DIELECTRIC TEST SHOULD BE DONE BEFORE RETURNING APPLIANCE TO CUSTOMER.
   D) SINCE THOSE PARTS MARKED WITH ⚠ ARE CRITICAL PARTS FOR SAFETY, USE THE ONE DESCRIBED IN PARTS LIST.


A
B
C
S
1
2
3
4
5
FM ANT
AM LOOP ANT
BPF
BF101
IC101
HA12412
IC102
LA1240
IC103
IFT101
IFT102
IFT103
CF101
SFP450H
BFU450C
BF102
X-TAL
TO MAIN BD
CNT 501
CNT604
TO CPU BD
CE
CLOCK
DATA
TUNER BD R
CNT101
PHONO
NJM2068DD
IC201
D VERSION
CD
TAPE1
IN
OUT
DAT/TAPE2
IC202
LC7821
IC204
LC4966
TO VIDEO BD
CNT 202
CNT203
CNT201
CNT613
TO INPUT BD
CNT 701
TO EQ BD
CNT 204
CNT 510
TO MAIN BD
BA6208 IC205
TO CPU BD
DOWN
UP
IND
CNT 617
VIDEO 1
VIDEO 2 IN
MON
PLAY
VIDEO2
REC
VIDEO 1
PLAY
GD4066
IC 701
TO INPUT BD
CNT204
P37
P36
M
MOTOR VOLUME 50KA
D202
VOLUME IND

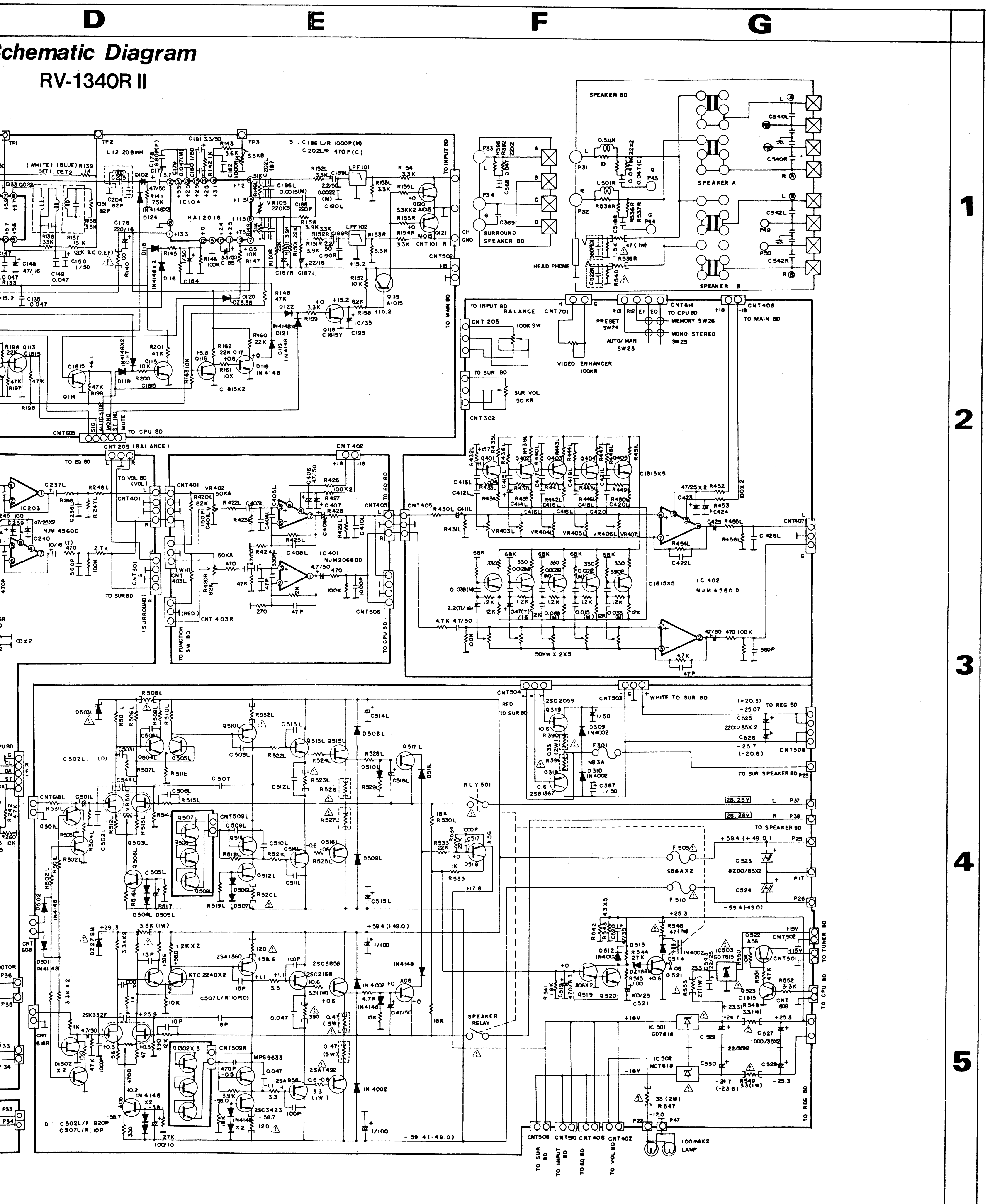
Schematic Diagram

RV-1340R II


TP1
TP2
TP3
IC101 HA12412
IC104 HA12016
IC103
IC202 LC7821
IC204 LC4966
IC205 BA6208
IC203 NJM4560D
IC401 NJM2068DD
IFT101
IFT102 (YELLOW)
IFT103 (BLACK)
CF101
LPF101
LPF102
SFP450H
VR104 22K (B)
VR105 220KB
VR101 220KB
VR402 50KA
(WHITE) (BLUE) DET1. DET2
L112 20.8mH
C186 L/R 1000P(M)
C202L/R 470P(C)
B.C.D.E.F R193 12K R194 27K
TO INPUT BD
TO MAIN BD
TO CPU BD
TO EQ BD
TO VOL BD (VOL)
TO SUR BD
TO VIDEO BD
TO FUNCTION SW BD
TO MOTOR
CNT502
CNT603
CNT604
CNT501
CNT205 (BALANCE)
CNT402
CNT401
CNT403R
CNT405
CNT506
CNT301
CNT101
TUNER BD R
CNT613
CNT202
CNT201
CNT701
CNT203
CNT204
CNT510
CNT617
CNT616
CNT608
CNT618L
CNT618R
CNT509L
CNT509R
CNT504
CNT503
CNT302
CNT 205 BALANCE 100K SW
CNT 701
SIG AUTO STOP MONO ST IND MUTE
DVERSION
SURROUND SPEAKER BD
SPEAKER BD
HEAD PHONE
PRESET SW24
VIDEO ENHANCER 100KB
SUR VOL 50KB
50KW X 2X5
RLY 501
SPEAKER RELAY
MOTOR VOLUME 50KA
VOLUME IND
D202
P33
P34
P35
P36
P37
2SC3856
2SA1360
2SC2168
2SA1492
2SA958
2SC3423
MPS9633
2SK332F
KTC2240X2
KTC1815Y
KTC1923
D302X 3
D: C502L/R: 820P C507L/R: 10P
+59.4 (+49.0)
-59.4 (-49.0)
F301 N83A
2SD2059
2SB1367
TO SUR BD
TO INPUT BD
TO EQ BD
TO VOL BD
CNT508
CNT510
CNT408

chematic Diagram

RV-1340R II


D
E
F
G
1
2
3
4
5
SPEAKER BD
SPEAKER A
SPEAKER B
HEAD PHONE
SURROUND SPEAKER BD
TO INPUT BD
TO MAIN BD
TO CPU BD
IC104 HA12016
LPF101
LPF102
CNT 205 (BALANCE)
IC203
NJM 4560D
IC 401 NJM2068DD
IC 402 NJM 4560 D
C1815X5
50KW X 2X5
VIDEO ENHANCER 100KB
SUR VOL 50 KB
PRESET SW24
AUTO/MAN SW23
MEMORY SW26
MONO-STEREO SW25
RLY 501
SPEAKER RELAY
2SD2059
2SB1367
F301 NB3A
F 509
F 510
SB6AX2
IC 501 GD7818
IC 502 MC7918
IC503 GD7815
TO REG BD
TO SUR SPEAKER BD
TO SPEAKER BD
TO TUNER BD
100mAX2 LAMP
D : C502L/R: 820P C507L/R: 10P
TO SUR BD
TO INPUT BD
TO EQ BD
TO VOL BD